



# **Solar PV System Installation and Maintenance Level II Learning Guide- 65**

<b>Unit of Competence</b>	<b>Solar PV System Installation and Maintenance</b>
<b>Module Title:</b>	<b>Operate Application Software Packages</b>
<b>LG Code:</b>	<b>EIS PIM2 M12 Lo1-LG65</b>
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**LO 1: Use appropriate word processing software**



<b>Instruction Sheet</b>	<b>Learning Guide -56</b>
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This learning guide is developed to provide you the necessary information, knowledge, skills and attitude regarding the following content coverage and topics:-

- Selecting appropriate word-processing software to perform activity
- Opening Word-processing application , creating documents and adding data according to information requirements
- Identifying and clarifying document purpose, audience and presentation requirements as required
- Identifying organizational requirements for text-based business documents and designing document structure and layout to ensure consistency of style and image
- Matching document requirements with software functions to provide efficient production of documents

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to:-

- Select appropriate word-processing software to perform activity
- Open Word-processing application , create documents and add data according to information requirements
- Identify and clarify document purpose, audience and presentation requirements as required
- Identify organizational requirements for text-based business documents and design document structure and layout to ensure consistency of style and image
- Match document requirements with software functions to provide efficient production of documents

### **Learning Instructions:-**

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 4.
3. Read the information written in the information Sheet 1, Sheet 2, Sheet 3, Sheet 4 , Sheet 5, in pages 3, 7,10,17 and 20 respectively.
4. Accomplish the Self-check 1, Self-check 2, Self-check 3, Self-check 4, Self-check 5, in pages 6,9,16,19, and 22 respectively



## Information Sheet-1

Select appropriate word-processing software to perform activity

### 1.1. Introduction

A word processor is software or a device that allows users to create, edit and print documents. It enables to write text, stores it electronically, display it on a screen, modify it by entering commands and characters from the keyboard, and print it. Of all computer applications word processing is the most common.

Word processing software is used to manipulate text and apply a basic design to your pages. More sophisticated design can be accomplished using desktop publishing software. Learn about the functionality of these two types of application software.

The key advantage of a word processor is its ability to make changes easily, such as correcting spelling, adding, and deleting, formatting and relocating text.

Key features of the program include the ability to enter and format text, the ability to save and print documents, compatibility with older versions of Word and other software, support for cloud or local use and collaboration features.

Microsoft Word or MS-WORD (often called Word) is a Graphical word processing program that users can type with. It is made by the computer company Microsoft. It is part of the Microsoft Office Suite package. The main purpose of Word is to create text documents that can be saved electronically, printed on paper or saved as PDF files. Microsoft Word allows you to create text documents. Its purpose is to allow users to type and save documents.

### 1.2. Types of word processing soft wares

Through history, there have been 3 types of word processors: mechanical, electronic and software The Ribbon is a user interface element which was introduced by Microsoft in Microsoft Office 2007. It is located below the Quick Access Toolbar and the Title Bar. It comprises seven tabs;

- Home,
- Insert,
- Page layout,
- References,
- Mailing,
- Review and
- View.



- Each tab has specific groups of related commands.

### 1.3. **docx – Word document**

- .docx – Word document.
- .docm – Word macro-enabled document; same as docx, but may contain macros and scripts.
- .dotx – Word template.
- .dotm – Word macro-enabled template; same as dotx, but may contain macros and scripts.
- .docb – Word binary document introduced in Microsoft Office 2007.

There are a number of different word processing applications. One of the most widely used ones is Word, which is part of Microsoft Office. Another widely used one is WordPerfect by the Corel Corporation. A third one is Writer, which is part of Open Office by Apache.

### 1.4. **Working with Text**

While multimedia files, such as digital imagery and video, have become increasingly popular in today's business world, the written word remains as important as ever. Just think about the nature of the documents being produced and circulated within an organization:

- A marketing plan to promote a new product
- A memo from senior management regarding corporate strategy
- A new benefits policy developed by human resources

Most of these documents are produced using word processing and desktop publishing software.

### 1.5. **Word Processing**

**Word processing software** is used to manipulate a text document, such as a resume or report. You typically enter text by typing, and the software provides tools for copying, deleting and various types of formatting.

Some of the functions of word processing software include:

- Creating, editing, saving and printing documents
- Copying, pasting, moving and deleting text within a document
- Formatting text, such as font type, bold, underlined and italicized
- Creating and editing tables



- Inserting elements from other software, such as illustrations and photographs
- Correcting spelling and grammar

There are a number of different word processing applications. One of the most widely used ones is Word, which is part of Microsoft Office. Another widely used one is WordPerfect by the Corel Corporation. A third one is Writer, which is part of Open Office by Apache. While the first two are commercial software, Open Office is open source and can be downloaded and used free of charge. Finally, there is Pages, which is part of Work by Apple. May include, but not limited to:



- **Apple Work**

The trusted Word app lets you create, edit, view, and share your files with others quickly and easily. Send, view and edit Office docs attached to emails from your phone with this powerful word processing app from Microsoft.

- **What is new**

**Pick Your Destination:** Use the Move command to easily move your cloud-based files from one folder to another.

- **Open Office**

Apache Open Office is an open-source office productivity software suite. It is one of the successor projects of OpenOffice.org and the designated successor of IBM Lotus Symphony. It is a close cousin of Liber Office and Neo Office.

Apache Open Office is free software. That means you are free to download it, free to install it on as many PCs as you like, free to pass copies to as many people as you like. You may use Open Office for any purpose without restriction: private, educational, public administration, commercial... Free, really free.

Open Office has excellent compatibility with Office formats and can export to PDF from all three apps. By default, Open Office uses the Open Document standard for native files, but you can change it to save to Microsoft formats, and it can read and write existing Word, Excel, and PowerPoint files.

Microsoft has provided a free converter plugin for older versions of Word, and .docx files can also be opened in Open Office, the free open source office suite whose development is managed by Sun Microsystems.

Although both Liber Office and Apache Open Office can open and edit native Microsoft formats DOCX and XLSX, only Liber Office is able to save to these formats. If you're going to be sharing documents with people using Microsoft Office, Liber Office might therefore be the better choice.



Self-Check -1	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page: 3 points each

1. A word processor is a software or a device that allows users to, and documents
  - A. create
  - B. Edit
  - C. print
  - D. All
2. What are the 3 types of word processors:
  - A. mechanical
  - B. Software
  - C. electronic
  - D. All
3. A ribbon have which is located between Quick Access Toolbar and the Title Bar composed of
  - A. Tabs
  - B. Groups
  - C. Commands
  - D. All

**Note:** Satisfactory rating - 3 points

Unsatisfactory - below 5 points

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions

Information Sheet-2	Open Word-processing application , create documents and add data according to information requirements
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#### 2.1. Definition of word processing application

You probably know at least one or two ways to open Microsoft Word on your PC, but there are a few you may not know.



- Click the Start button. Type "word" without quotation marks into the search box. Click "Microsoft Word 2010" in the list that appears.
- Click the Start button. Hover the mouse pointer over "All Programs." Scroll down to the Microsoft Office folder and click it. Select "Microsoft Word 2010."
- Press the Windows key and "R" on the keyboard at the same time to bring up the Run dialogue. Type "WinWord.exe" without quotation marks into the box.
- Right-click on an empty area of the Windows 7 desktop. Hover the mouse pointer over "New" in the menu that appears. Click "Shortcut." Type or copy and paste "C:\Program Files\Microsoft Office\Office14\WINWORD.EXE" into the box. Click "Next." Type "Word" into the box and click "Finish." Double-click the Word shortcut that appears on the desktop to launch Word.
- Open an MS Word file on your computer by double-clicking it. If you are asked to choose an application to open the file with, select "Microsoft Word." You may close the file you have opened if you do not want to use it now and open another one instead.

## 2.2. Create word document

To create a document, simply open Word, select a blank document or template, and start typing. Word offers many professionally designed templates to help you create letters, resumes, reports, and more. Open Word. Or, if Word is already open, select File > New.



Figure 1: Create word document

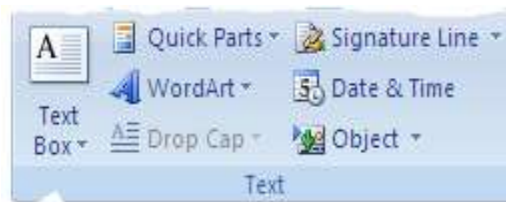




- Click where you want to insert the content of the existing document.
- On the Insert tab, in the Text group, click the arrow next to Object, and then click Text from File.
- In the Insert File dialog box, locate the file that you want, and then double-click it. You can insert the content of previously-created Word documents into a new or different Word document.

### 2.3. Inserting a document

- Click where you want to insert the content of the existing document.
- On the Insert tab, in the Text group, click the arrow next to Object, and then click Text from File.



**Figure 2: Inserting a document**

- In the Insert File dialog box, locate the file that you want, and then double-click it.
- To add in the contents of additional Word documents, repeat the above steps as needed.

The Information requirements by an organization can be used for agendas, letters, memos and minutes.



Self-Check -2	Written Test
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**Directions:** Answer all the questions listed below.

Use the Answer sheet provided in the next page: each 3 points

**I. Choose the best answer**

1. To create a document a document:

- A. Click where you want to insert the content of the existing document
- B. Insert tab, in the Text group, click the arrow next to Object
- C. In the Insert File dialog box, locate the file that you want
- D all are possible answers



**Note: Satisfactory rating - 3 points**

**Unsatisfactory - below 3 points**

You can ask you teacher

**Note: Satisfactory rating - 3 points**

**Unsatisfactory - below 3 points**

Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Short Answer Questions**



Information Sheet-3	Identify and clarify document purpose, audience and presentation requirements as required
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### 3.1. Introduction

A computer document is a file created by a software application. While the term "document" originally referred specifically to word processor documents, it is now used to refer to all types of saved files. Therefore, documents may contain text, images, audio, video, and other types of data

The purpose of Microsoft Word or MS-WORD (often called Word) is to allow users to type and save documents. Similar to other word processors, it has helpful tools to make documents. Microsoft Word is used to create various types of official documents that you can print and publish. When you open a Microsoft Word, it contains default document, like a paper.

- **Caption**

You can add captions to figures, equations, or other objects. A caption is a numbered label, such as "Figure 1", that you can add to a figure, a table, an equation, or another object. It's comprised of customizable text ("Figure", "Table", "Equation" or something else that you type) followed by an ordered number or letter ("1, 2, 3..." or "a, b, c..." typically) which can be optionally followed by some additional, descriptive, text if you like.

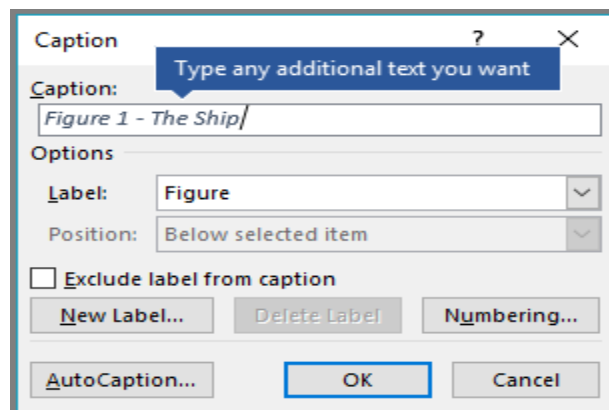


Figure 3: **Caption**

- **Add captions**



- ✓ Select the object (table, equation, figure, or another object) that you want to add a caption to.
- ✓ On the References tab, in the Captions group, click Insert Caption.

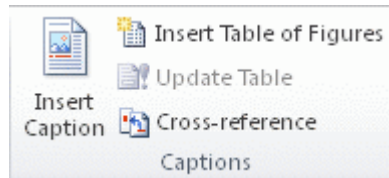


Figure 4: Add captions

- ✓ In the Label list, select the label that best describes the object, such as a figure or equation. If the list doesn't provide the label you want, click New Label, type the new label in the Label box, and then click OK.

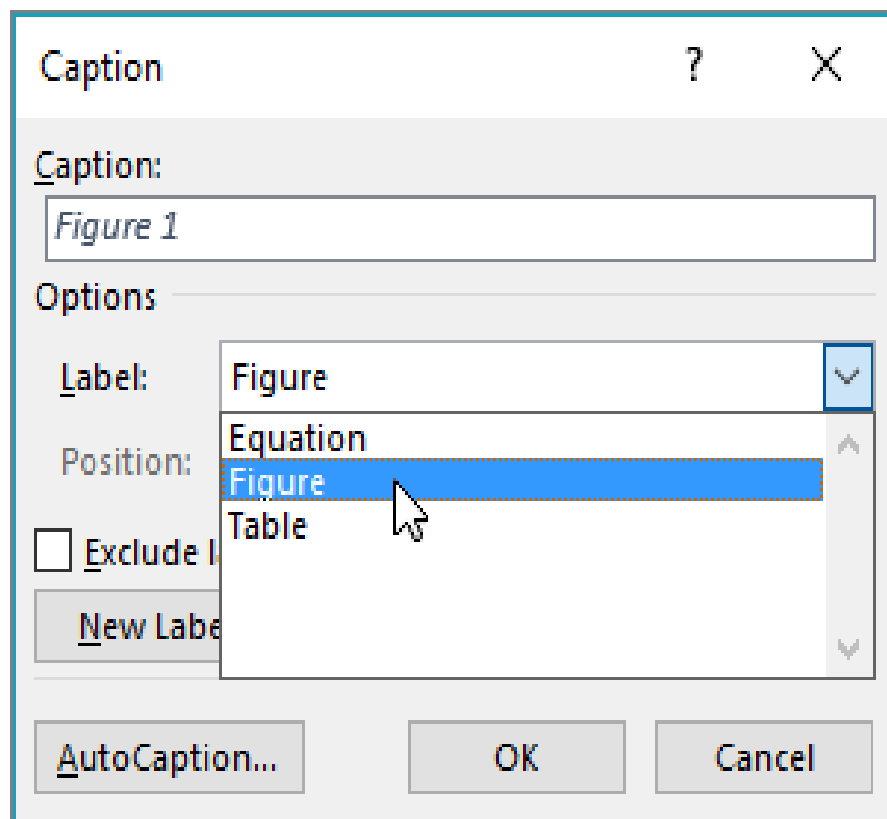
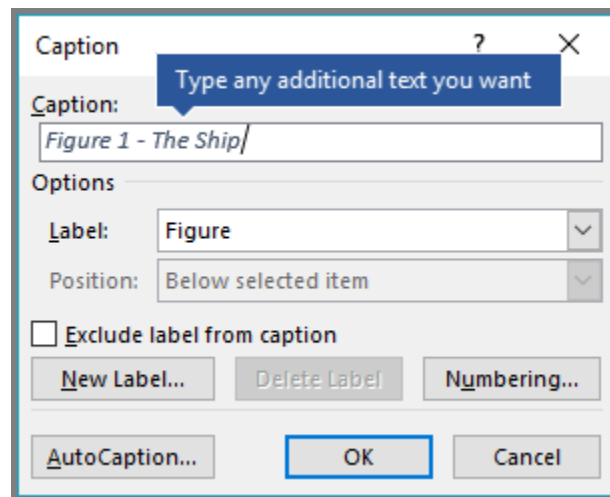


Figure 5: insert tables and figures

- ✓ Type any text, including punctuation, that you want to appear after the label.



**Figure 6: Type any text**

- ❖ Click **OK**.

**Note:** Word inserts the sequential caption number as a field. To see the caption normally, press ALT+F9. Word is displaying field codes instead of field results. Other applications including add caption numbers, add caption to a floating object, format captions, delete captions and other applications can be used.

- **Fixing page numbers in a word**

Click anywhere on the page where the numbering is starting over at “1.” If you're not in the Header and Footer view, select the Insert tab, click Footer and click Edit Footer. Put the cursor in the footer; DO NOT select the page number. Click Page Number and then Format Page Numbers.



### 3.2. Create different headers or footers for odd and even pages

- Double-click the header or footer.
- Select Different Odd & Even Pages.
- On one of the odd pages, click the header or footer area you want to change.
- Type the document title, and then press Tab twice.
- Select Page Number > Current Position and choose a style.
- Select an even page.

- **Get rid of page number from the header**

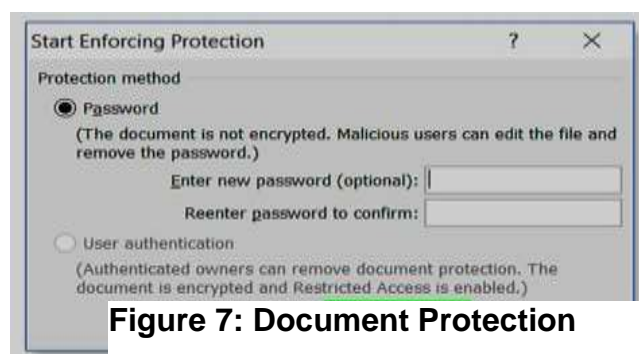
Just double-click the top or bottom of the page to open the Design tab, click the Header (or Footer) button and select the Remove option. But if your document is long and complex with different headers/footers on different pages, it's a little more daunting. Unless you know this helpful trick.

### 3.3. Even or odd page section break

The page breaks partition only the body text of the document, whereas the section breaks partition both the body text of the document, as well as partition page margins, headers and footers, page numbers, and the like. ... The different kinds of section breaks include next page, continuous, even page, and odd page breaks.

- **Document protection**

- ✓ Open your Microsoft Word document. Double-click the Word document that you want to protect with a password
- ✓ Click File. It's a tab in the upper-left corner of the Word window
- ✓ Click the Info tab
- ✓ Click Protect Document
- ✓ Click Encrypt with Password
- ✓ Enter a password
- ✓ Click OK
- ✓ Re-enter the password, then click OK.



**Figure 7: Document Protection**



- **How to draw in Word**

- ✓ Click Insert at the top of the window.
- ✓ Click the Shapes button, and then click the Scribble icon in the Lines section.
- ✓ Click and hold down the mouse button, then move the mouse cursor to draw. ...
- ✓ Click the Format tab under Drawing Tools to make any changes to your drawing.

- **Add a drawing to a document**

- ✓ Click in your document where you want to create the drawing.
- ✓ On the Insert tab, in the Illustrations group, click Shapes.

1. When you find the shape you want to insert, double-click to insert it automatically, or click and drag to draw it in your document.

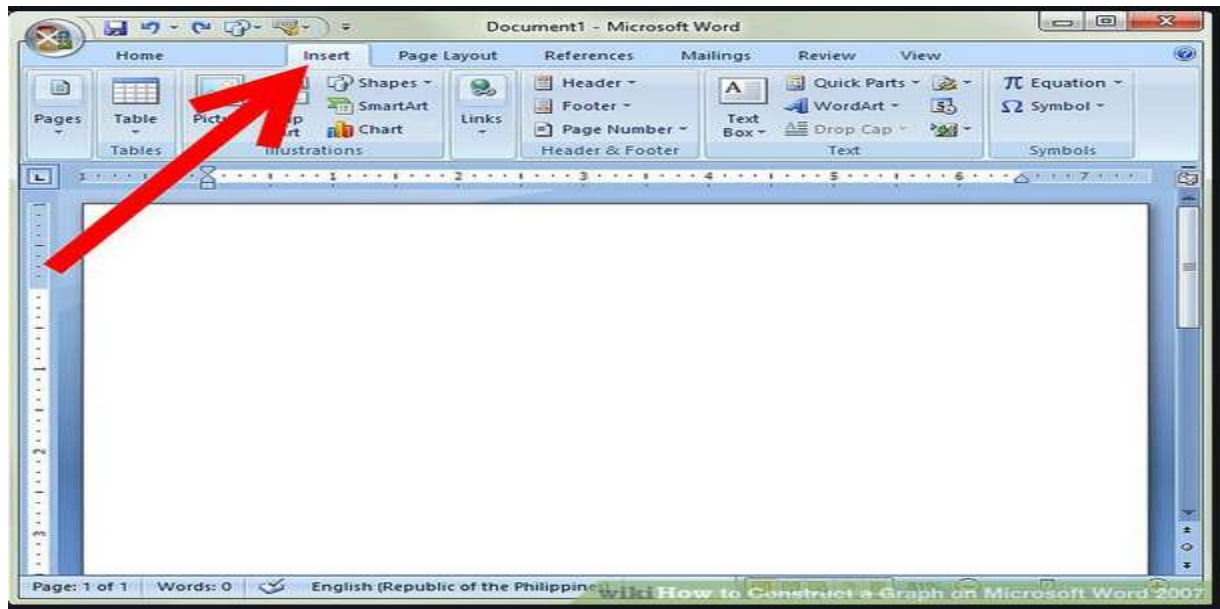


Figure 8: Add a drawing to a document



### 3.4. How do you hyperlink documents

You can add hyperlinks to your document that give your readers instant access to information in another part of the same document. The hyperlink can be text or graphics. By using hyperlinks, you can provide information to your readers without repeating the same information on different pages.

- **Add the link**

- ✓ Select the text or object you want to use as a hyperlink.
- ✓ Right-click and then click Hyperlink .
- ✓ Under Link to, click Place in This Document.
- ✓ In the list, select the heading or bookmark that you want to link to

- **Linked and embedded objects**

*The main differences between linked objects and embedded objects are where the data is stored and how you update the data after you place it in the Word file. You place either a link to the object or a copy of the object in the document.*

*OLE (Object Linking and Embedding) is a component document technology from Microsoft that allows you to dynamically link files and applications together. ... For instance, an Excel spreadsheet can be embedded within a Microsoft Word.*

- **How to Use Mail Merge in Microsoft Word**

- ✓ In a blank Microsoft Word document, click on the Mailings tab, and in the Start Mail Merge group, click Start Mail Merge .
- ✓ Click Step-by-Step Mail Merge Wizard .
- ✓ Select your document type. ...
- ✓ Select the starting document. ...
- ✓ Select recipients. ...
- ✓ Write the letter and add custom fields.



To create a big, whopping document from many smaller documents — to create a master document — obey these steps:

- ✓ Start a new, blank document in Word. ...
- ✓ Save the document. ...
- ✓ Switch to Outline view. ...
- ✓ On the Outlining tab in the Master Document group, click the Show Document button. ...
- ✓ Click the Insert button..

- **How to Insert WordArt**

Word Art is designed to allow you make your text more attractive; you can format your text to make it look like a picture and enhance its appearance in different ways. The steps to insert WordArt are given below;

- ✓ Place the cursor where you want to insert WordArt
- ✓ Select the Insert tab
- ✓ In Text group click the 'WordArt' button
- ✓ WordArt menu appears;
- ✓ Select the desired WordArt style
- ✓ 'Edit WordArt Text' dialog box appears
- ✓ Type the text in text area and click OK

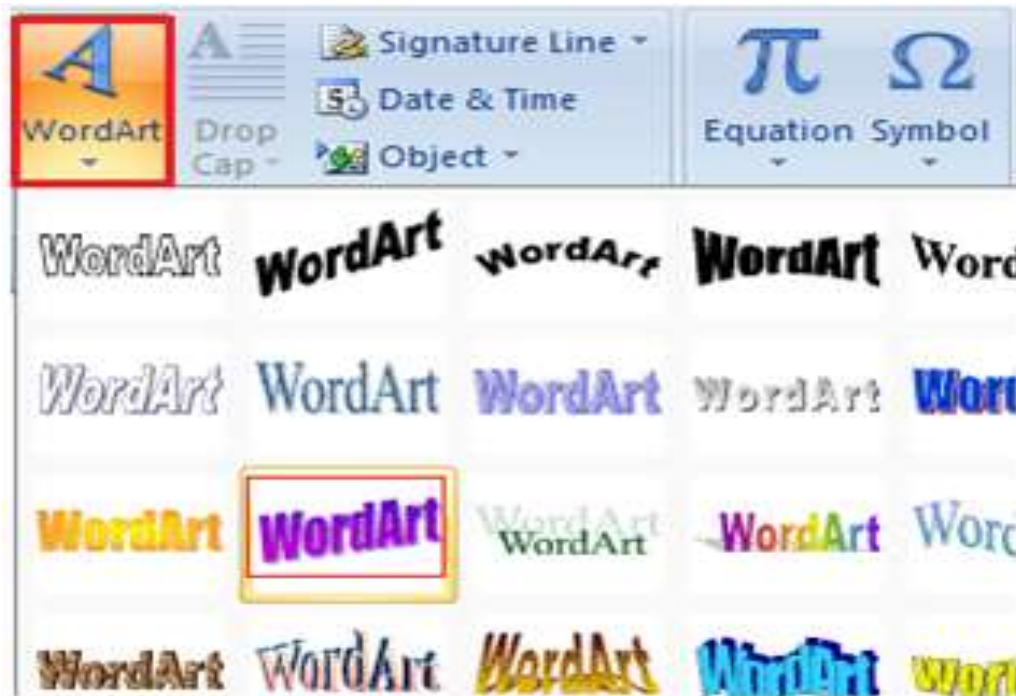


Figure 9: word Art

Self-Check -3	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page: each 3 points

Choose the best answer

1. How word document used for an organization ?
  - B. Agenda
  - C. memo
  - C. minutes
  - D. All
1. The space left between the margin and the start of a paragraph is called
  - A. Spacing
  - B. Gutter
  - C. Indentation
  - D. Alignment
2. Text-styling feature of MS word is
  - A. Word Color
  - B. Word Font
  - C. WordArt
  - D. Word Fill

**Note:** Satisfactory rating - 3 points

Unsatisfactory - below 3 points



## Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions

Information Sheet-4	Identify organizational requirements for text-based business documents and design document structure and layout to inconsistency of style and image
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#### 4.1 .Document structure and layout

A style is a mixture of Word formatting that you can apply over and over, like paint. ... And if you need to change some document formatting—like font size—you only have to change the definition of the style to change the formatting of all text that's tagged with the style.

- **To change page orientation:**

- ✓ Select the Layout tab.
- ✓ Click the Orientation command in the Page Setup group.
- ✓ A drop-down menu will appear. Click either Portrait or Landscape to change the page orientation.
- ✓ The page orientation of the document will be changed.

- **Open Layout Options**

- ✓ Click a picture to select it.
- ✓ Click the Layout Options icon.
- ✓ Choose the layout options you want: To bring your picture in front of the text and set it so it stays at a certain spot on the page, click In Front of Text (under With Text Wrapping), and then click Fix position on page.

- **Formatting a document**



The formatting of a document includes changing the appearance of the text, adding pictures and graphics and controlling the layout of the text on the page. There are different ways to format the document. The formatting toolbar is the easiest way to change any attribute.

In a word processing program, you can format any text that you create. Formatting involves specifying the font, alignment, margins, and other properties. The format is the layout of a document. The format determines how the document will appear on the screen and how it will look when printed.

#### 4.2 Simple Design Rules to Make Word Documents Look Professional and Beautiful

- Keep It Simple, Less Is More. ...
- Choose a Context-Appropriate Typeface. ...
- Use Standard Font Size and Color. ...
- Use Standard Page Size and Margins. ...
- Align Paragraphs to the Left. ...
- Indent the First Lines of Paragraphs. ...
- Place Images between Paragraphs.
  
- **Word: Insert File/Path Name into Document Footer or Header**
  - ✓ Open Microsoft Word.
  - ✓ Click the "Insert" tab.
  - ✓ From the "Header & Footer" group, click [Header] or [Footer].
  - ✓ From the drop-down menu, choose a Header or Footer style.
  - ✓ Return to the "Insert" tab.
  - ✓ From the "Text" group, click [Quick Parts] > Select "Field..."
  - ✓ Under "Field names," select "File Name."
  
- **Insert Logo**

Click near the top or bottom of the document where you wish to insert the logo. To insert the logo in the header or footer, double-click near the top or bottom of the document. Click the "Insert" tab on the command ribbon. Click the "Picture" button in the "Illustrations" group

- **Follow these steps:**



- ✓ Open a new word processing document (or open the document that needs the logo added)
- ✓ From the pull down menus, choose Insert > Header > Default.
- ✓ Click so that the cursor is inside the new header block.
- ✓ From the pull down menus, choose Insert > Picture > From File.
- ✓ Navigate to the desired logo, and then click Open.

Self-Check -4	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page: each 3 points

Choose the best answer

1. In which view Headers and Footers are visible  
A. Normal View B. Page Layout View C. Print Layout View D. Draft View
2. The process of removing unwanted part of an image is called  
A. Hiding B. Bordering C. Cropping D. Cutting

**Note: Satisfactory rating - 3 points**

**Unsatisfactory - below 3 points**





### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions

Information Sheet-5	Match document requirements with software functions to provide efficient production of documents
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### 5.1. Introduction

Following are the top 10 organizational requirements for txt based documents uses of Microsoft Word

- **Business and workplace use of Microsoft Word: –**

You can create all types of official documents in Microsoft Word. You can use template function in Microsoft to download letterhead sample, bills, and cash memo, joining letter, receipts, letterhead and all various types of accounts management related work. You can send an email by using mail merge that helps you to send one document to thousands of people with name and address. The use of Microsoft Word in official works is really easy and productive other than any other word processing software. After installing and working on MS word you don't need to find anything on the search engine. It's because if you don't know something, you can even search inside the Microsoft Word when it's connected to the internet.



- **MS word uses in Education: –**

Microsoft word is the best teaching tools for teachers. You can create lecture script by using text, word art, shapes, colors, and images. That will explore creativity in students. They will watch a slide or printed document more interestingly. Other than that you can type and edit question paper in Microsoft Word. You can write an application, a letter that is helpful in a certain situation. Microsoft Word is used to create various educational materials. It's helpful to create error-free documents.

- **Home-based uses of Microsoft Word: –**

You can create a birthday card, invitation card in Microsoft Word by using pre-defined templates or using insert menu and format menus functions. You can also type a letter to municipal party on MS-Word. Microsoft word is like a diary for personal use, in which you can write your day to day actives. Such as you can type and print the shopping list in the paper.

- **Microsoft Word helps you to get a job: –**

Microsoft Office basic knowledge can play a big role to get you a job. As you learned above business and commercial uses of Microsoft Word. It means the basic and advanced knowledge of MS Word can help you to get a job. And its' great skills that you can highlight in your resume.

- **Help to create resumes, notes, and assignments: –** You can create notes and assignment on MS-word. It's easy to write and format text in Microsoft word by using various text formatting options such as paragraph, fonts, styles, etc. You can insert a cover page, you can insert watermark and tables in your assignment according to your choice

- **You can create books, articles, and newsletters: –**

Microsoft word is used by millions of people around the world for document writing since its launch. And writing a book on Microsoft Word is really easy. There are lots of features and functionality that can help you to create and print a book.

A book needs a cover page, content, head and footers, image adjustments, text alignment, and text highlighter, etc. All these features are available in Microsoft Word.

Also, you can create e-books or pdf documents by just need to save your document in .pdf. This is an option you can find in the file menu after that change the save type



from .docx to .pdf and it will create an ebook or notes files for you. But save an original copy of Word file in .docx, before saving in .pdf format.

- **Used to create edit, transcribe, and convert PDF documents: –**

You can create and edit PDF document in Microsoft Word. You can also transcribe the video into a word file. You can copy and edit pre-written books.

Microsoft word is used by data entry operators, assistant and typist more often to enter and format text in a word file. You can also use Microsoft word to translate a document from English to Hindi and Italian to English. But to type in Hindi, You need Hindi fonts such as Kundli, Agra, etc.

- **You can start an offline/online business after learning the Microsoft word: –**

Now you know that there are so many uses of Microsoft Word and Office in our daily life. So, you can use Microsoft word to start the business. You can start your business online and offline. You need to create documents for official works. It's like a data entry business. You can start freelancing to get Microsoft Word related works. You can sell documents on your own website. You can even buy a printer and provide notes for school students. Like a home-based cyber café.

- **Collaborate with team members anytime and from anywhere: –**

You can use Microsoft word to collaborate with your team while working on the same project and document. For that, you need to use Microsoft word online. Microsoft word is now updated to cloud base application in which the cost of official works is reduced.

- **You can use Microsoft Word to teach student:**

Microsoft word commercial uses are more than our thinking. But after learning and practicing Microsoft Office or Microsoft application you can teach to other people. You can teach your own kids how to download images and align text with images for notes. How to create resumes. If you have minimum knowledge of official works then you can even start teaching people online by creating a video tutorial that you can upload on YouTube. After that, you can monetize your video and website content with Google AdSense.





Self-Check -5	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page: each 3 points

Choose the best answer

1. Which items are placed at the end of a document  
A. Footer B. Foot Note C. End Note D. Header
2. We can insert a page number at  
A. Header B. Footer C. Both A and B D. None

**Note:** Satisfactory rating - 3 points

Unsatisfactory - below 3 points

Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Short Answer Questions**

LAP Test	Practical demonstration
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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

**Instructions:** Given necessary templates, tools and materials you are required to perform the following tasks within --- hour.



- Step-1** Selecting appropriate word-processing software
- Step-2** Opening Word-processing application
- Step-3** Creating document
- Step-4** Information requirements
- Step-5** Identifying and clarifying document purpose
  - Step-6** Organizational requirements and document structure layout
- Step-7** Matching document requirements with software functions



# **Solar PV System Installation and Maintenance**

## **Level -II**

# **Learning Guide -66**

<b>Unit of Competence</b>	<b>Solar PV System Installation and Maintenance</b>
<b>Module Title</b>	<b>Operating Application Software Packages</b>
<b>LG Code</b>	<b>EIS PIM2 M12 LO2- LG66</b>
<b>TTLM Code</b>	<b>EIS PIM2 TTLM 0819v1</b>

**LO2: Customize basic settings and format Documents to meet page layout conventions**

<b>Instruction Sheet</b>	<b>Learning Guide -13</b>
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This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics –

- Adjusting page layout
- Opening and viewing different toolbars
- Changing font format /font settings
- Changing and modifying alignment, line spacing and margin
- Aligning Information in a selected cell
- opening and switching between word documents / spread sheets/ database/
- Formatting features ,styles and format cell
- Using technical functions and formatting tools
- Highlighting and coping text
- Inserting Headers and footers
- Saving documents in file format and storage device

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, **you will be able to :**

- Adjust page layout
- Open and viewing different toolbars
- Chang font format /font settings
- Chang and modifying alignment ,line spacing and margin
- Align Information in a selected cell
- Open and switching between word documents / spread sheets/ database/
- Forma features ,styles and format cell
- Use technical functions and formatting tools
- Highlight and cop text
- Insert Headers and footers
- Save documents in file format and storage device



### **Learning Instructions:**

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 1 to 3.
3. Read the information written in the information Sheet 1, Sheet 2, Sheet 3, Sheet 4, Sheet 5, Sheet6, Sheet7, Sheet8, Sheet9,, Sheet10, Sheet11, in pages 4, 14,22,32,40,44,51,61,70,76 , &89 respectively.
4. Accomplish the Self-check 1, Self-check 2, Self-check 3, Self-check 4, Self-check5, Self-check6,Self-check7, Self-check8, Self-check9 Self-check10, Self-check11,in pages 12,20,30,38,43,49,59,68,74,87 and 93 respectively
5. If you earned a satisfactory evaluation from the “Self-check” proceed to Operation
6. Do the “LAP test” on page 93



<b>Information sheet-1</b>	<b>Page layout</b>
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### 1.1.Introduction

Page layout is the art of manipulating the user's attention on a page to convey meaning, sequence, and points of interaction.

If the word “manipulating” sounds unseemly to you, think about it this way. Film and television directors make their living by manipulating your attention on the movie or TV screen, and you are presumably a willing participant. Likewise for editors who arrange articles, headlines, and ads on a newspaper. If all this content were presented in a drab monotone, with no graphic emphasis to grab and move your attention, you would actually find it harder to extract meaning—what's supposed to be important, and what's not?

Even though it is ultimately an art, there might be more rationality to good page layout than you think. Some important ideas from graphic design are explained in this chapter introduction; each can guide you in the layout of pages, screens, and dialog boxes. We'll talk about visual hierarchy, visual flow and focal points, and grouping and alignment—all are predictable and rational approaches to page design. This chapter's patterns describe concrete ways to apply those high-level concepts to interface design.

But the changeable, interactive nature of computer displays makes layout easier in some ways, harder in others. We'll talk about why that's true. Some of these patterns work as well in print as they do onscreen, but most of them would be useless in print because they presume that the user will interact with the page.

### 1.2. The basics of page layout

This section discusses five major elements of page layout: visual hierarchy, visual flow, grouping and alignment, how to put these three elements together, and how to use dynamic displays

- **Visual Hierarchy**

The concept of visual hierarchy plays a part in all forms of graphic design. Put simply, the most important content should stand out the most, and the least important should stand out the least. Titles ought to look like titles, and



secondary content ought to look like secondary content in other words, a reader should be able to deduce the informational structure of the page from its layout. in short, a good visual hierarchy gives instant clues about:

- ✓ The relative importance of page elements
- ✓ The relationships among the

- **Visual Flow**

Visual flow deals with the tracks that readers' eyes tend to follow as they scan the page. It's intimately related to visual hierarchy, of course—a well-designed visual hierarchy sets up focal points on the page wherever you need to draw attention to the most important elements, and visual flow leads the eyes from those points into the less-important information. As a designer, you should be able to control visual flow on a page so people follow it in approximately the right sequence.

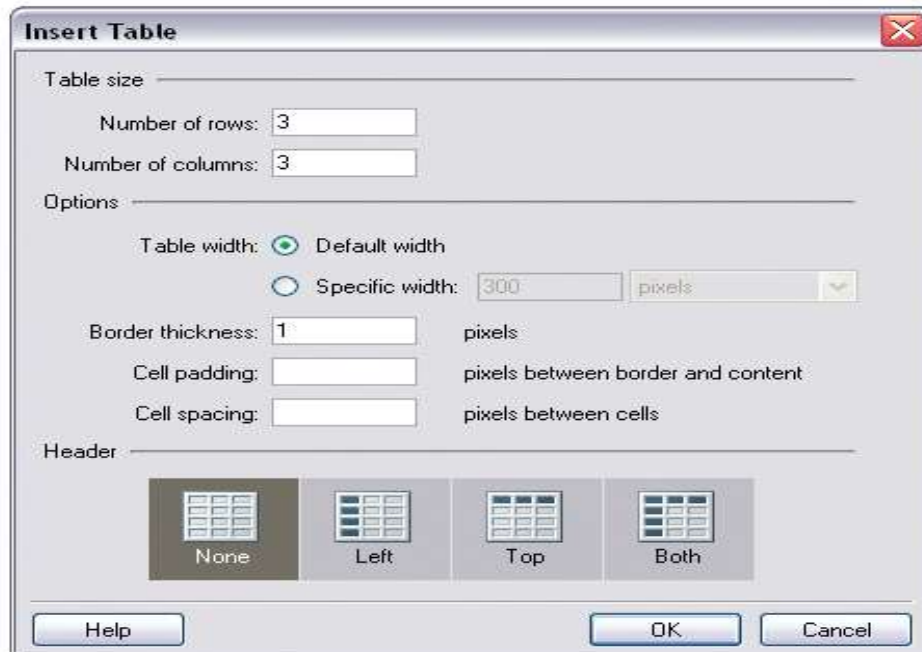
Several forces can work against each other when you try to set up a visual flow. One is our tendency to read top-to-bottom and left-to-right. When faced with a monotonous page of text, that's what you'll do naturally; but any visual focal points on the page can distract you from the usual progression, for better or worse.

"Focal points" are the spots your eyes can't resist going to. You tend to follow them from strongest to weakest, and the better pages have only a few—having too many focal points dilutes the importance of each one. You can set them up in many different ways, such as by using whitespace, high contrast, big chunky fonts, spots of "interesting" color, converging lines, hard edges, faces, and motion. (Yes, this list resembles the one above for visual hierarchy. Titles, logos, and critical sections of text or images use these properties to become focal points.

The next time you pick up a magazine, look at some well-designed ads and notice what your eyes gravitate toward. The best commercial graphic artists are masters at setting up focal points to manipulate what you see first.

However, if you've ever brought up an ad-filled web page and pointedly ignored the brightly-colored moving ads (so you could read the monotonous blocks of text that you went there to read), then you know that we're not merely slaves to our hardwired visual systems! We can choose to ignore what we think we don't need to look at, and zero in on what we think is the important part of the page. Thus meaning and context also play a big part in visual flow.

If you build a UI in which sequence makes a difference—like a Wizard, or a dialog box in which early choices affect later choices—then think about visual flow. (Even if your UI does not depend upon sequence, you should think about it anyway, since a good visual flow is easier on your users' eyes.) It's not hard to set up a layout that flows well, but be on your guard against layout choices that work against it. Place your controls and buttons along a straightforward visual path. At the end of that path, put the link or button that finishes the task ("Submit," "Return to main page," or "OK") and brings the user somewhere else.



**Figure 10: page lay out**

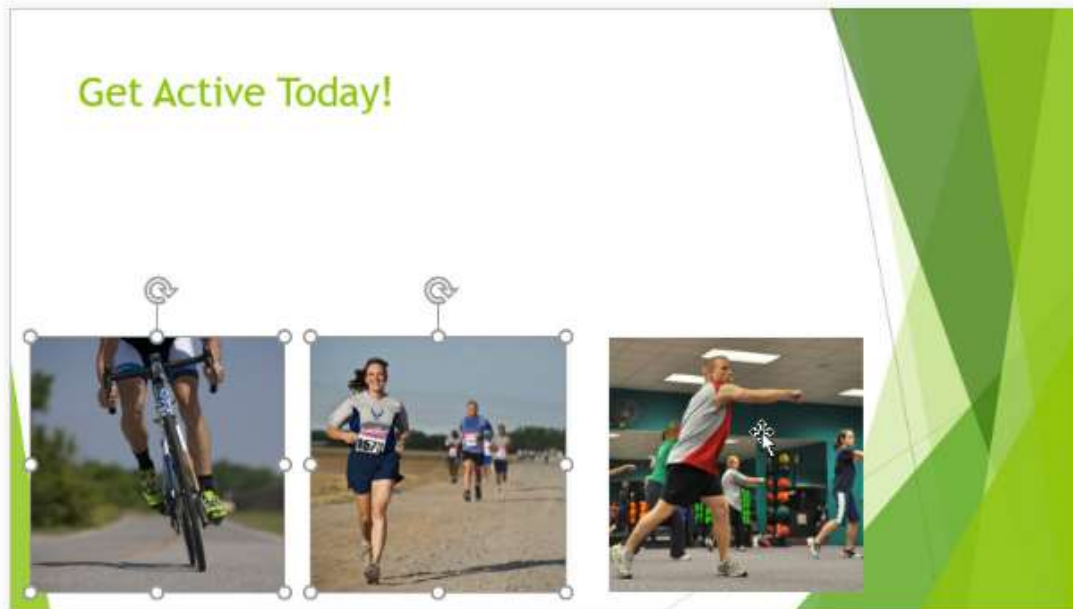


### 1.3. Aligning objects

When you move objects in PowerPoint, **alignment guides** and **spacing guides** will appear as dashed orange lines and arrows around the objects to help you align them. However, if you have several objects on a slide, it may be difficult and time consuming to get them perfectly aligned. Luckily, PowerPoint has several alignment commands that allow you to **easily arrange** and position objects

- **To align two or more objects:**

- ✓ Select the objects you want to align. To select multiple objects at once, hold the Shift
- ✓ key while you click. The Format tab will appear
- ✓ From the Format tab, click the Align command, then select Align Selected
- ✓ Objects
- ✓ Click the Align command again, then select one of the six alignment options
- ✓ The objects will align based on the option you selected To align objects to the slide Sometimes you may want to align one or more objects to a specific location within the slide, such as at the top or bottom. You can do this by selecting the Align to Slide option before aligning the objects.to align:-
- ✓ Select the objects you want to align. To select multiple objects at once, hold the Shift key while you click
- ✓ From the Format tab, click the Align command, then select Align to Slide
- ✓ Click the Align command again, and then select one of the six alignment options.
- ✓ The objects will align based on the option you selected



**Figure 11:** alignment





#### 1.4. To distribute objects evenly

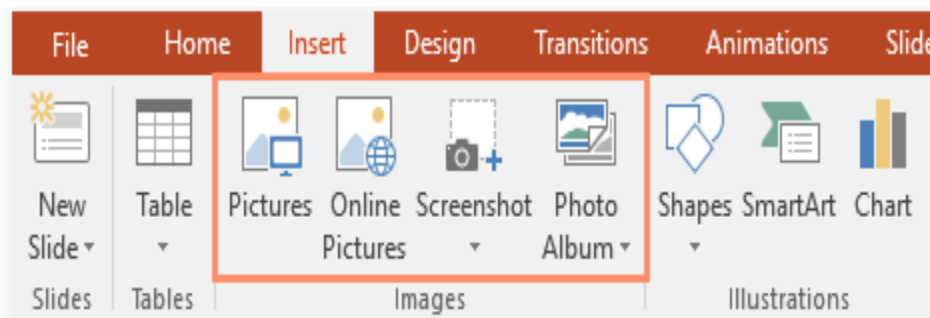
If you have arranged objects in a row or column, you may want them to be an equal distance from one another for a neater appearance. You can do this by distributing the objects horizontally or vertically.

- Select the objects you want to align. To select multiple objects at once, hold the Shift key while you click.
- From the Format tab, click the Align command, then select Align to Slide
- Click the Align command again, then Distribute Horizontally **or** Distribute Vertically from the drop-down menu that appears
- The objects will distribute evenly

#### 1.5. Grouping objects

You may want to group multiple objects into one object so they will stay together if they are moved or resized. This is often easier than selecting all of the objects each time you want to move them.

Pictures, shapes, clip art, and text boxes can all be grouped; however, placeholders cannot be grouped. If you will be grouping pictures, use one of the commands in the Images group on the Insert tab to insert pictures instead of the picture icon inside the placeholder.



**Figure 12: grouping materials**



- **To group objects:-**

- ✓ Select the objects you want to align. To select multiple objects at once, hold
- ✓ the Shift key while you click. The Format tab will appear
- ✓ From the Format tab, click the Group command, then select Group
- ✓ The selected objects will now be grouped. There will be a single box with sizing handles around the entire group to show that they are one group. You can now move or resize all of the objects at once

Self-check-1	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:(2point each)

**Choose the best answer from the given alternative**

1. One from the following is not major elements of page layout:  
A. Aligning    B. visual hierarchy    C. visual flow    D. None
2. \_\_\_\_\_ is art of manipulating the user's attention on a page to convey meaning, sequence, and points of interaction.  
  
A. Aligning    B. Visual hierarchy    C. layout    D. visual flow

**Note: Satisfactory rating 1.5 and above points    Unsatisfactory - below 1 point**

You can ask you teacher for the copy of the correct answers.



## Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Short Answer Questions

Operation Sheet 1	Adjusting page layout
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### Technics of Adjusting page layout /steps to Adjusting page layout

**Step-1** Select the objects you want to align. To select multiple objects at once, hold the Shift key while you click. The Format tab will appear

**Step-2** from the Format tab, click the Align command, then select Align Selected Object

**Step-3** Click the align command again, then select one of the six alignment options

**Step-4** The objects will align based on the option you selected

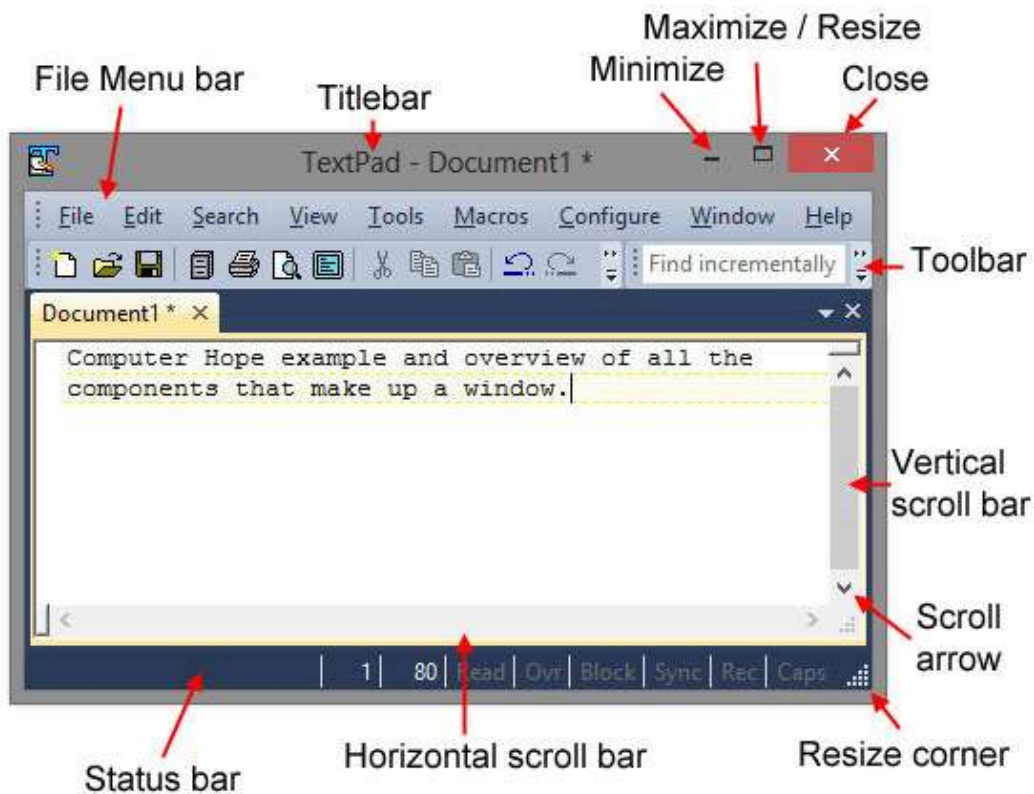


Information sheet-2	Opening and viewing different toolbars
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### 2.1. Definition of opening tool bars

Toolbars are small graphical icons created for easier access to computer commands. They are typically located at the top of an application and can be customized to show the most used functions of the software. They are employed in Web browsers to display frequently used websites and perform simple browser functions such as reloading a page or adding a website to your favorites

Sometimes referred to as a bar or standard toolbar, the toolbar is a row of boxes, often at the top of an application window, that control various functions of the software. The boxes often contain images that correspond with the function they control, as demonstrated in the image below



**Figure 13: some examples of toolbar**



**Figure 14: Some typical toolbar**

A toolbar often provides quick access to functions that are commonly performed in the program. For example, a formatting toolbar in a Microsoft Excel gives you access to things like making text bold or changing its alignment, along with other



common buttons. In an Internet browser, toolbars add functionality that may not come pre-installed. For example, with the Google toolbar, you can get access to exclusive Google features.

## 2.2. Common computer software toolbars and other bars

- App bar - Windows 8 bar
- Bar chart - A chart consisting of horizontal or vertical bars
- Barcode - A series of lines that identifies an address product, or other information
- Browser toolbar- Any toolbar in an Internet browser.
- Bookmarks bar - Bar showing frequently visited bookmarks or favorites.
- Commands bar - A bar that shows available commands in a program.
- Formatting toolbar - Toolbar that shows text formatting options
- Formula bar -Bar in a spreadsheet program that allows you to edit a formula
- Menu bar - A bar at the top of the screen that gives access to all of the menus
- Navigation bar - Gives access to all navigation features in a browser
- Places bar - A pane that shows common places to access files
- Progress bar - An indicator that shows how long until something is completed
- Scroll bar - A bar on the bottom or side of the window to scroll through a page.
- Split bar - A bar that divides the window into multiple sections
- Status bar - One of the few bars at the bottom of the window that shows the status
- Title bar - A bar at the very top of a window that describes the program or window.

## 2.3. Design concepts

A good menu bar is a comprehensive catalog of all the available top-level commands, whereas a good toolbar gives quick, convenient access to frequently used commands. A toolbar doesn't attempt to train users just make them productive. Once users learn how to access a command on a toolbar, they rarely continue to access the command from the menu bar. For these reasons, a program's menu bar and its toolbar don't need to correspond directly.

## 2.4. Toolbars vs. menu bars

Traditionally, toolbars are different from menu bars in the following ways:

- **Frequency.** Toolbars present only the most frequently used commands, whereas menu bars catalog all the available top-level commands within a program.
- **Immediacy.** Clicking a toolbar command takes effect immediately, whereas a menu command might require additional input. For example, a Print



command in a menu bar first displays the Print dialog, whereas a Print toolbar button immediately prints a single copy of a document to the default printer

In this example, clicking the Print toolbar button immediately prints a single copy of a document to the default printer.

- **Directness.** Toolbar commands are invoked with a single click, whereas menu bar commands require navigating through the menu.
- **Number and density.** The screen space required by a toolbar is proportional to the number of its commands and that space is always used, even if the commands are not. Consequently, toolbars must use their space efficiently. By contrast, menu bar commands are normally hidden from view and their hierarchical structure allows for any number of commands.
- **Size and presentation.** To pack many commands in a small space, toolbars usually use icon-based commands (with tooltip-based labels), whereas menu bars use text-based commands (with optional icons). While toolbar buttons can have standard text labels, these do use significantly more space. Labeled toolbar buttons take at least three times as much space as unlabeled ones.
- **Self-explanatory.** Well-designed toolbars need icons that are mostly self-explanatory because users can't find commands efficiently just using tooltips. However, toolbars still work well if a few less frequently used commands aren't self-explanatory
- **Recognizable and distinguishable.** For frequently used commands, users remember toolbar button attributes like location, shape, and color. With well-designed toolbars, users can find the commands quickly even if they don't remember the exact icon symbol. By contrast, users remember frequently used menu bar command locations, but rely on the command labels for making selections
- Different with menu bars

The main difference between a toolbar and a menu bar is that a toolbar contains images and icons, while a menu bar contains words. Functionally, a toolbar acts as a shortcut to a specific function or command. Clicking a toolbar icon immediately executes the command. On the other hand, clicking a menu bar simply opens up the options under it. Microsoft Word, for example, has a menu bar called "File." Clicking on "File" lists down the options under it like "New," "Save" or "Print," which are the specific





commands. A toolbar image that has a small printer icon immediately prints the Microsoft Word document

- **Icons**

Because a toolbar is a graphical representation of a specific command, the toolbar icons must be able to represent the commands they execute. They should be obvious or, at least, provide clues to the users on what they do. A printer icon obviously means that it is a printing command. A diskette or floppy disk icon may be a shortcut to save a file because diskettes and floppy disks are used for saving and storing files.

- **Presentation**

Toolbars show the most frequently used or commonly used commands. Easily recognizable icons can be unlabeled, without an accompanying one-word text to explain what it does, while less obvious icons can be labeled. Toolbars can be designed to be full or partial toolbars. Full toolbars show all the icons of the application or page, while a partial toolbar only shows the most frequently-used while hiding the rest. This is to prevent too much clutter on the window page and make the design appear streamlined and neat.

- **Toolbar type**

- ✓ There are five types of toolbars.

The first one is the primary toolbar: which works independently without a menu bar. The menu bar in a primary toolbar is either hidden or inactive.

The second one is the supplementary toolbar, which works with a menu bar. In this type, the toolbar is merely an add-on to the menu bar so only a few toolbars are shown. A toolbar menu is a hybrid of a toolbar and menu bar. It is a toolbar that contains two or three similar commands grouped together. Customizable toolbars allow users to resize, modify, edit and even change the contents of the toolbar. A palette window's toolbar pops out of the application and presents the toolbar in batches or arrays. An example of this is the paint toolbar that shows the different available colors. To add, remove, or reorder tools on any toolbar, follow these steps, which reflect your current operating system (Microsoft Windows or Mac OS X):





- ✓ Make sure the toolbar you want to customize is displayed. When you select View>Toolbars, a check mark appears next to each displayed toolbar. If a toolbar isn't displayed, select its name to display it.
  - ✓ From the menu bar, select View > Toolbars > Customize. Or click the Toolbar Options drop-down menu (the down arrow at the end of each toolbar) and select Add or Remove Buttons>Customize. Either way, the Customize dialog box appears.
  - ✓ Click the Commands tab, which displays a list of tools that you can add to a toolbar, as shown in the following figure. If you want to remove or move a tool, skip to Step 4.
  - ✓ (Optional) By default, the All Commands option is selected in the Categories list. However, you can narrow down the tools displayed in the Commands list by selecting a category in the Categories list. For example, select Arrange in the Categories list to display only the arranging commands in the Commands list.
- 
- Do any of the following:
    - ✓ Add a tool: Drag a tool or command from the Commands list to the toolbar. An insertion cursor indicates where the tool or command will appear on the toolbar when you release the mouse button.
    - ✓ Remove a tool: Drag a tool off the toolbar
    - ✓ Move a tool: In the toolbar, drag any tool to a new location within the toolbar.
    - ✓ Copy a tool from one toolbar to another: In the toolbar, while pressing the CTRL key, drag any tool to a new location within the toolbar.
    - ✓ If you mess up a toolbar, you can select that toolbar in the "Toolbars..." dialog listing, and click the "Reset" button.



Self-Check -2	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:(2point each

**Say true or false**

1. Toolbars are small graphical icons created for easier access to computer commands.
2. \_\_\_\_\_ Toolbar commands are invoked with a single click  
A. Directness   B. number and density   C. Size and presentation   D. none

**Note: Satisfactory rating – 2& above points   Unsatisfactory - below 2 point**

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Short Answer Questions**



<b>Operation Sheet 2</b>	<b>Adjusting page layout</b>
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**Technics of Adjusting page layout /steps to Adjusting page layout**

to add, remove, or reorder tools on any toolbar, follow these steps, which reflect your current operating system (Microsoft Windows or Mac OS X):

**Step-1** Make sure the toolbar you want to customize is displayed. When you select View>Toolbars, a check mark appears next to each displayed toolbar. If a toolbar isn't displayed, select its name to display it.

**Step-2** From the menu bar, select View > Toolbars > Customize. Or click the Toolbar Options drop-down menu (the down arrow at the end of each toolbar) and select Add or Remove Buttons>Customize. Either way, the Customize dialog box appears.

**Step-3** Click the Commands tab, which displays a list of tools that you can add to a toolbar, as shown in the following figure. If you want to remove or move a tool, skip to

**Step-4** optional By default, the All Commands option is selected in the Categories list. However, you can narrow down the tools displayed in the Commands list by selecting a category in the Categories list. For example, select Arrange in the Categories list to display only the arranging commands in the Commands list.



<b>Information sheet-3</b>	<b>Changing font format /font setting</b>
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### 3.1. Introduction

Changing the text in your documents can help to make your creations more interesting and eye-catching. Text can be changed to many different sizes and styles.

The font must be a standard style that is clear and readable. Script, cursive, and pictorial fonts are prohibited. All document text with the exception of items embedded in figures must be black. a Font size should be 11 or 12 point. an Italicized fonts are only accepted where allowed or required by your chosen style guide a font size and font type must be consistent throughout the text.

A Chapter, titles and sections can be a larger font size than the standard text, if in accordance with the student's approved style guide and advisory committee. This style decision must be applied consistently throughout the text.

The font size of tables and figures can be smaller than the standard text if in accordance with the student's style guide and advisory committee. This style decision must be applied consistently throughout the text. Font cannot be at less than 8 point to allow for readability.

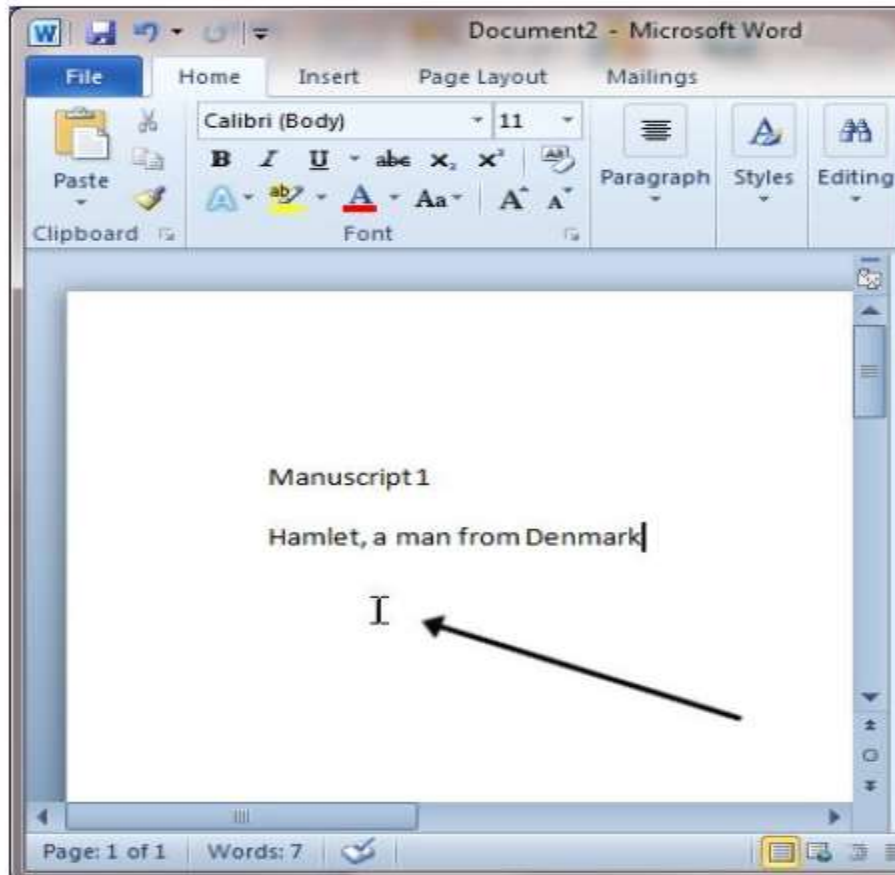
### 3.2. Follow these step-by-step instructions to change text size and font

**Step 1:** Open an existing Word document or start a new document and type your text

**Step 2:** If you'd like to change a portion of the text to a different font, it will need to be selected or highlighted first. When the mouse pointer is moved over

**Step 3:** Select your text so that it's highlighted

**Step 4:** To change the font style, click the arrow next to the font style in the ribbon at the top of your document



**Figure 15: palace for text**

**Step 3:** Select your text so that it's highlighted

**Step 4:** To change the font style, click the arrow next to the font style in the ribbon at the top of your document.

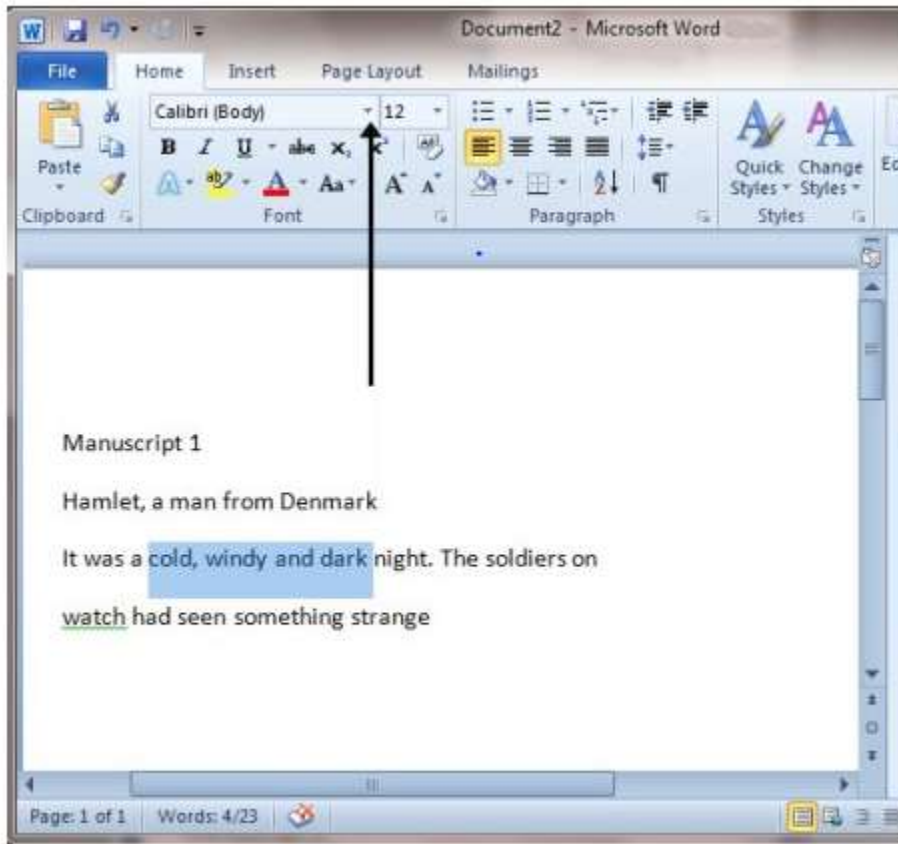
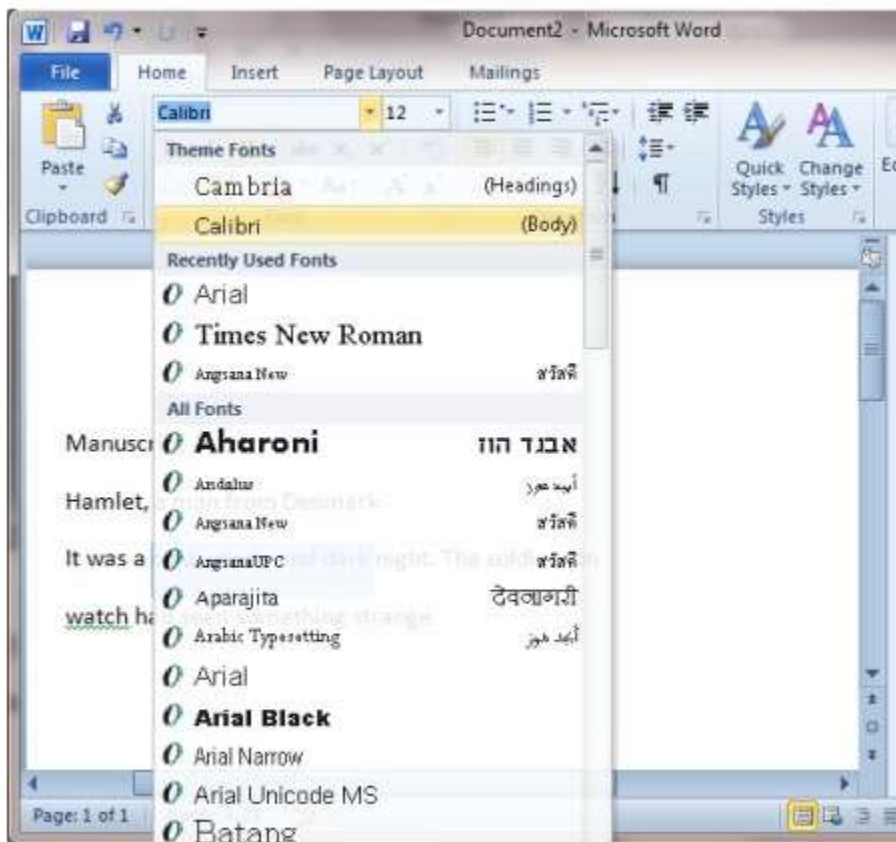


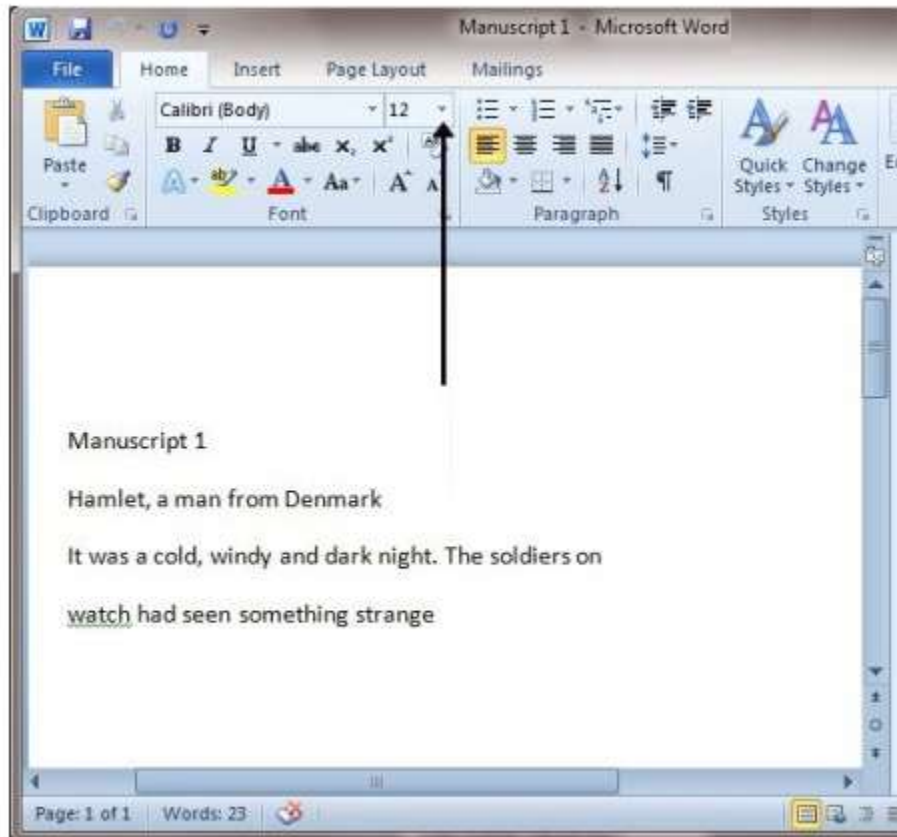
Figure 16: font

**Step 5:** Choose your font style from the drop-down list given



**Figure 17: font**

**Step 6:** Next to the font style box is a box containing a number and an arrow. This changes the size of the font. Click on the arrow.



**Figure 18: Size/numbering**

**Step 7:** Choose the size of font from the drop-down list of options

**Step 8:** If you'd like the same size and style of font set up every time you start a new document, you can set a 'default font'. Click on the 'Font' arrow just above the main screen



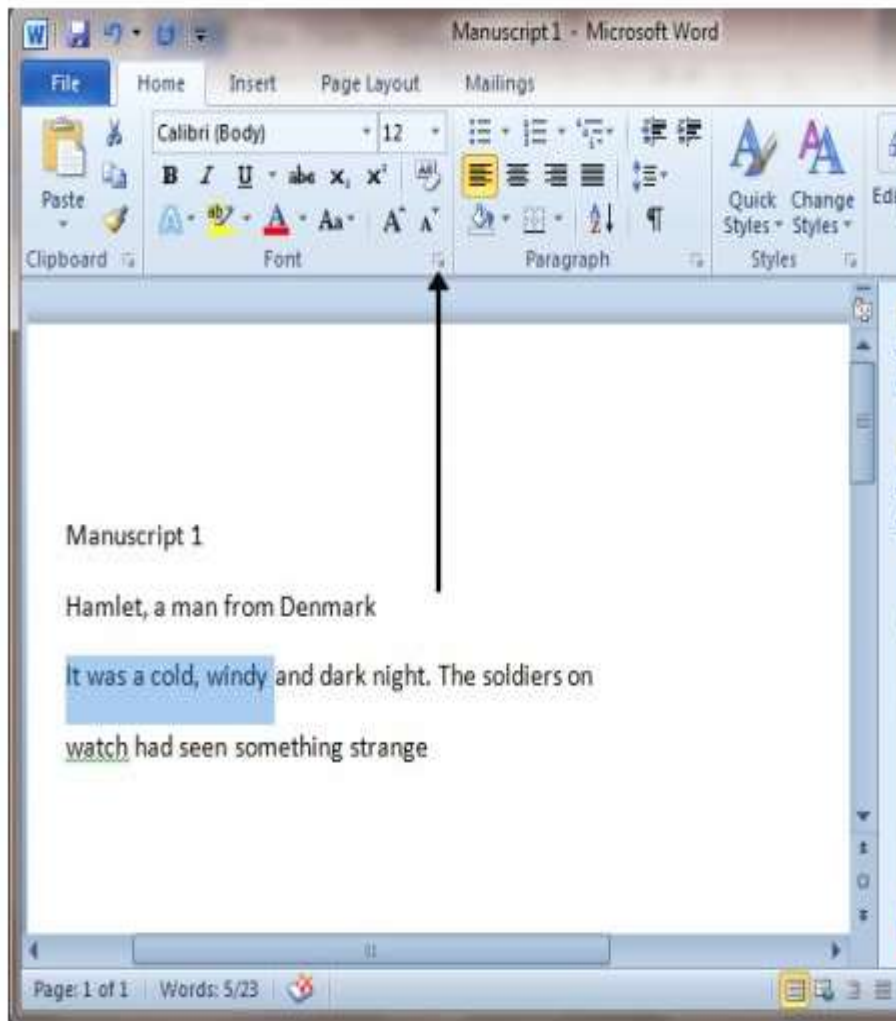
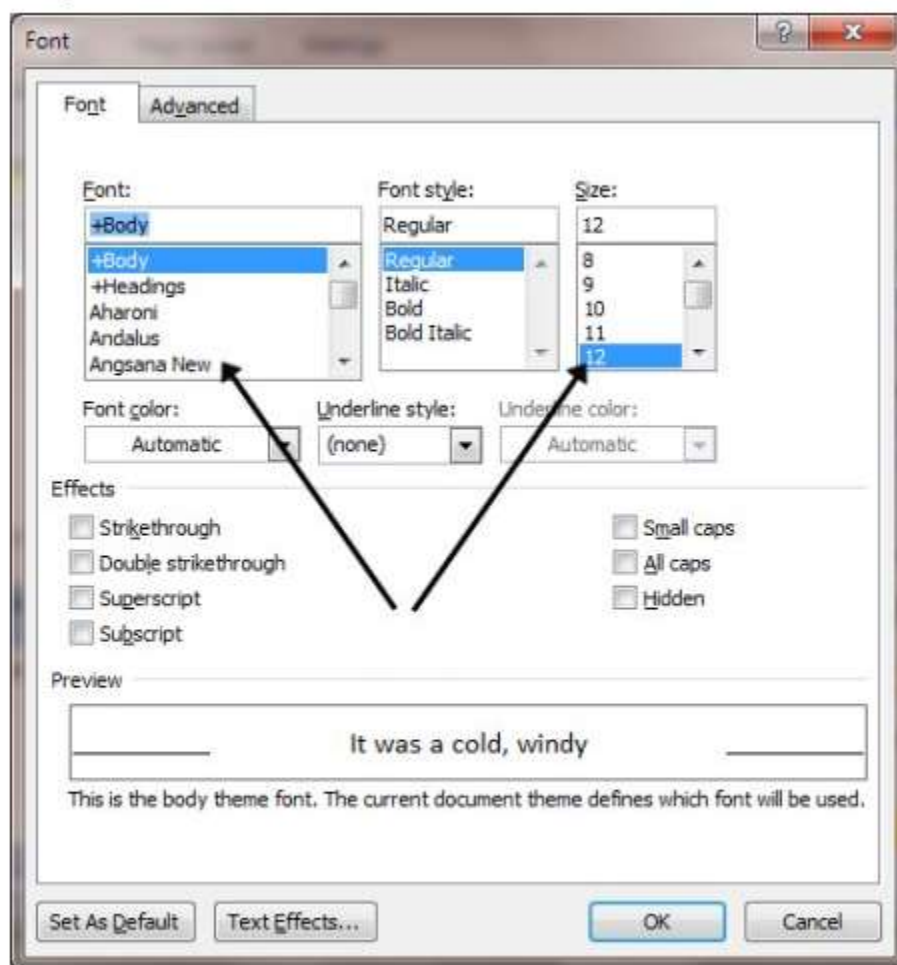


Figure 19: Size

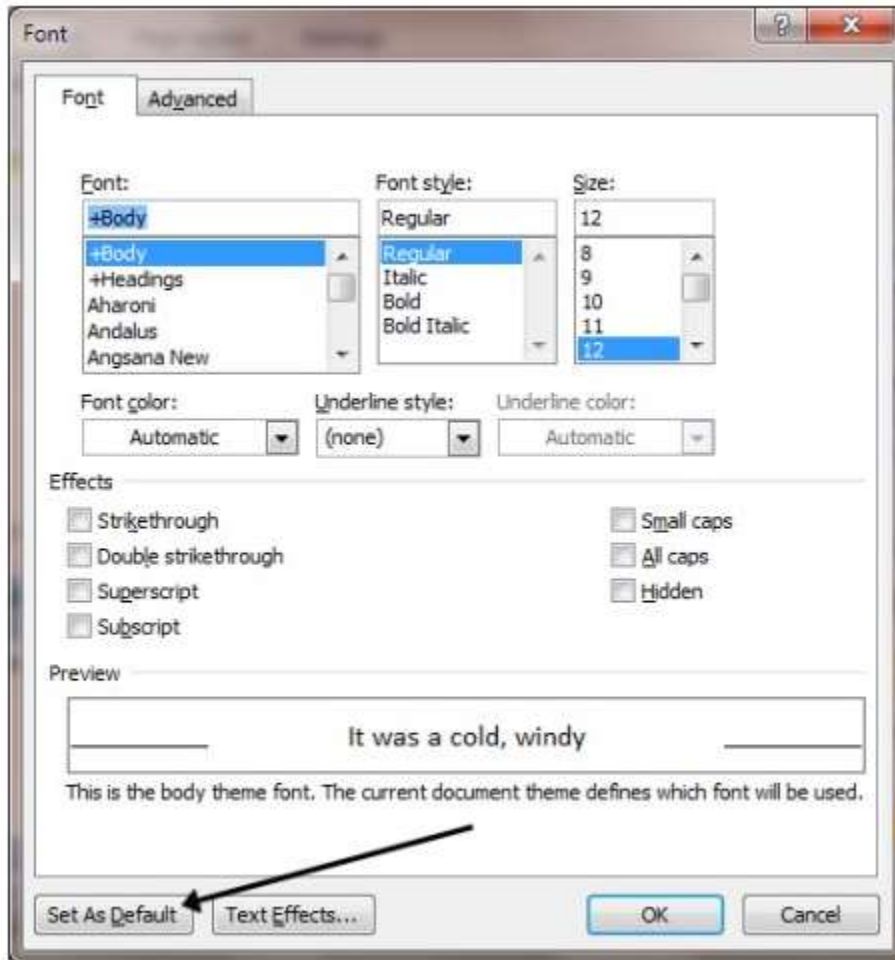
**Step 9:** A dialogue box will pop up. In this, choose your font size and style from the options



**Figure 20: diagonal box**



**Step 10:** Click **Set as default** in the bottom left-hand corner of the dialogue box



**Figure 21:** set default

**Step 11:** Another dialogue box will pop up asking if you're sure you want to change the font for all Word documents. Click Yes. Now, whenever you open a new document in Word, the default font will be used

**Step 12:** If you want to change the default font in an earlier version of Word, click Format at the top of your document to open the 'Format' menu. Choose Font from the menu list. Then follow **steps 9 to 11**.



Self-Check -3	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

**Say true or False**

1. A chapter, titles and sections are a small font size than the standard text.
2. The font size of tables and figures are large than the standard text.

**Note: Satisfactory rating – 2 points**

**Unsatisfactory - below points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score =

Rating: \_\_\_\_\_



## Short Answer Questions

Operation Sheet -3	Changing font format /font settings
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### Steps to changing font format /font settings

**Step -1:** Open an existing Word document or start a new document and type your text

**Step- 2:** If you'd like to change a portion of the text to a different font, it will need to

be selected or highlighted first. When the mouse pointer is moved over

**Step- 3:** Select your text so that it's highlighted

Step- 4: To change the font style, click the arrow next to the font style in the ribbon at the top of your document

**Step- 5:** Choose your font style from the drop-down list given

Step- 6: Next to the font style box is a box containing a number and an arrow. This changes the size of the font. Click on the arrow

**Step -7:** Choose the size of font from the drop-down list of options

**Step- 8:** If you'd like the same size and style of font set up every time you start a new document, you can set a 'default font'. Click on the 'Font' arrow just above the main screen

**Step- 9:** A dialogue box will pop up. In this, choose your font size and style from the options

**Step -11:** Another dialogue box will pop up asking if you're sure you want to change the font for all Word documents. Click Yes. Now, whenever you open a new document in Word, the default font will be used

**Step- 12:** If you want to change the default font in an earlier version of Word, click **Format** at the top of your document to open the 'Format' menu. Choose Font from the menu list. Then follow steps 9to11

## Information sheet-4

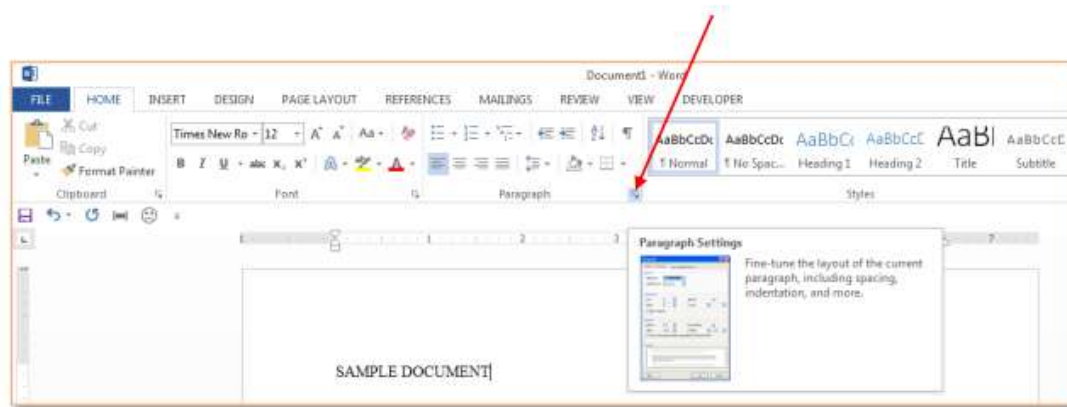
## Changing and modifying alignment, line spacing and margin

### 4.1. Introduction

One of the first things that readers will notice when they see a document is the line spacing and margins. Not only that, but certain courses and citation styles call for certain formatting standards that determine what line spacing and margins you should use. This tutorial explains the basics of how to modify these two formatting features in Microsoft Word

### 4.2. Line Spacing

To adjust the amount of space between each line, open the Paragraph dialog box, found in the middle of the Ribbon on the Home tab.



**Figure 22: Line Spacing**

Line spacing determines the amount of vertical space between lines of text in a paragraph. By default, lines are single-spaced, meaning that the spacing accommodates the largest font in that line, plus a small amount of extra space.

Paragraph spacing determines the amount of space above or below a paragraph. When you press Enter to start a new paragraph, the spacing is carried over to the next paragraph, but you can change the settings for each paragraph.



You set line and paragraph spacing on the Indents and Spacing tab of the Paragraph dialog box (Home tab). You can also align text to baseline guides to precisely line up text across multiple columns. You set baseline guides on the Baseline Guides tab of the Layout Guides dialog box (Page Design tab). You can align text to baseline guides on the Indents and Spacing tab of the Paragraph dialog box (Home tab).

The default settings for line and paragraph settings are determined by the style used.

- **Change the space between paragraph**

- ✓ Select the text you want to change.
- ✓ On the Home tab, click the Paragraph launcher to show the Paragraph dialog box.
- ✓ Click the Indents and Spacing tab.
- ✓ Under Line spacing, do either of the following:

In the before paragraphs box, type or select the amount of spacing you want above the paragraph. In the After paragraphs box, type or select the amount of spacing you want below the paragraph.

#### **4.3. Change text alignment, indentation, and spacing**

To make the text on your slides easier to read, you might want to change the spacing between lines of text and between paragraphs in your PowerPoint presentation. You can also adjust the alignment and indentation of lines of text.

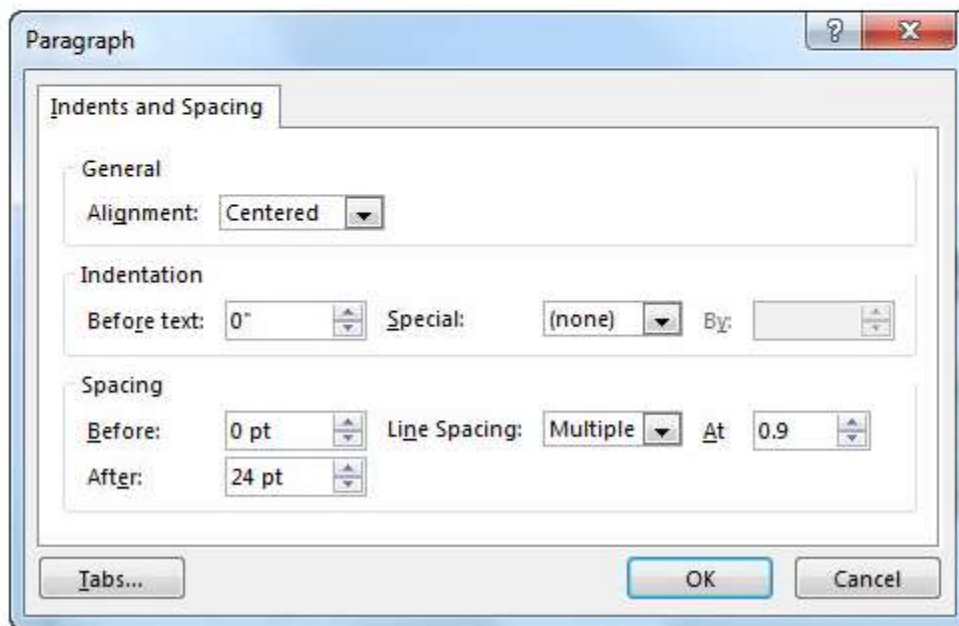
Line spacing (single-space, double-space, and so on) and vertical alignment (top, bottom, or middle) are available from menu buttons on the Home tab of the Ribbon, in the Paragraph group. There are more detailed spacing options available in the Paragraph dialog box

- On the slide, select the text that you want to change.
- Click Home, and in the Paragraph group, click the dialog box launcher





The **Paragraph** dialog box appears:



**Figure 23: paragraph box**

- **Alignment**

To change the horizontal placement of text, in the Alignment box, choose Left, Center, Right, Justified, or Distributed. Justified adds spacing between words so that the lines of text touch both the left and right margins, except for the last line of the paragraph, which uses normal word spacing. Distributed is similar to Justified, but even the last line touches both the left and right margins, with space added between words and letters, as necessary

- **Indentation**

To add indentation or change the amount of indentation before text, select or type a number in the text box. You can use the Special options to only indent the first line, or



to add a hanging indent. Indentation is measured in inches, and it can be any whole number or decimal, such as 1.2 inches.

For other ways to work with indentation and spacing see:

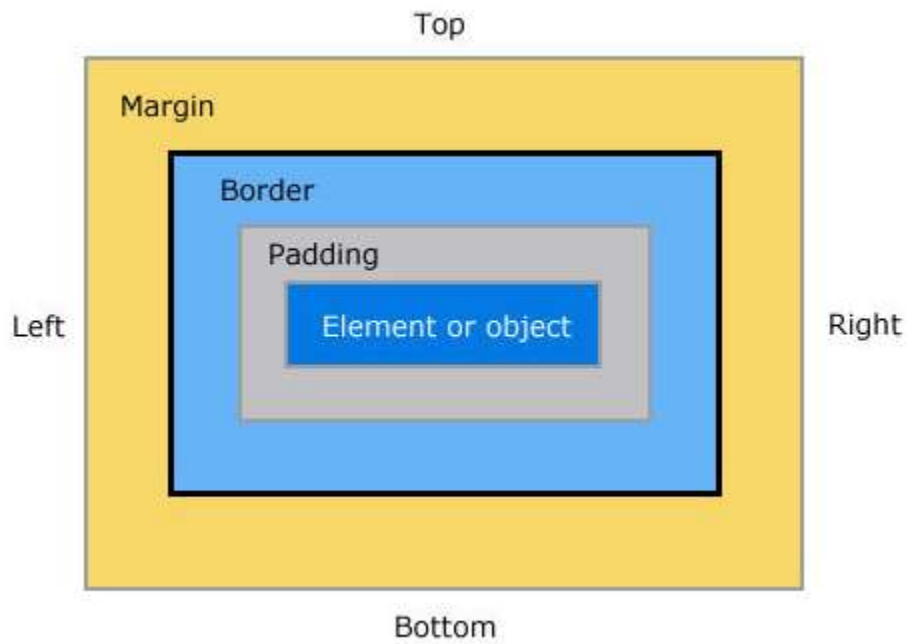
- ✓ Increase or decrease indents
- ✓ Create or remove a hanging indent
- ✓ Change fonts and kerning (character spacing) in PowerPoint
- ✓ Add bullets or numbers to text
- ✓ Video: Change font size, line spacing, and indentation

- **Margin**

A margin is a space separating text or other elements from the edge of the paper commonly adjusted through the page setup. Most programs allow for the top, bottom, left, and right margins to be set. The standard margin settings are 1" top and bottom and 1.25" left and right



By increasing the size of the margins, you decrease the available space on the page that text can occupy. In other words, a page with bigger margins have less room for text. If you decrease the size of the margins, the page can accept more text. The picture below helps to demonstrate the difference between padding and a margin



**Figure 25:** difference between padding and a margin

Self-Check -4	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the page(2point each)

**Say true or false**

1. A margin is a space separating text or other elements from the edge of the paper.
2. One of the first things that readers will notice when they see a document is the line spacing and margins.

**Note: Satisfactory rating - 1 points**

**Unsatisfactory - below 1 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score =

Rating: \_\_\_\_\_

**Short Answer Question**

Operation Sheet -4	Aligning Information in a selected cell
--------------------	---

**Technics Changing and modifying alignment, line spacing and margin Microsoft Word and Excel 2007:-**

Step-1. In the Ribbon bar click the Layout or Page Layout tab, and then click the margins option.

Step-2 Select one of the preset margin options or click Custom Margins to specify the margins you want the document to have

Step-3 Click the File menu, then click Page Setup

Step-4 under the Margins heading, enter the desired margin lengths or use the arrow



Button beside each margin to increase or decrease the margins

Step-5 Click File and then Page setup



## Information Sheet-5

## Aligning Information in a selected cell

### 5.1. Definition cell

When creating a new worksheet or workbook it can sometimes be a tough call working out where to place your data. Basically cell alignment can be broken up into 4 main parts: horizontal and vertical, orientation, wrapping, and merging.

1. Horizontal and Vertical Alignment Data in a cell can be positioned horizontally and vertically within the cell. There are three horizontal alignments available – against the left border, against the right border, and in the center.

There are also three vertical alignments available – against the top border, against the bottom border, and in the middle. The vertical and horizontal alignments are not mutually exclusive and can be mixed together. For example, you can have text that appears aligned to the right and aligned to the top border.

- **Orientation**

Orientation refers to the rotation of data within a cell. With the orientation you can angle the data upwards or downwards, display the data vertically down the cell, or rotate it 90° up or down the cell (this is sometimes referred to as sideways).

- **Wrapping**

Wrapping is a process used in word processors where long sentences automatically wrap to the next line. This can also be done with long text entries that are typed into a cell in a worksheet. A sentence that may span across quite a few columns can be made to wrap down a single cell or even merged into several cells

- **Merging**

Merging basically means combining several cells into one so as to make a super-sized cell which can accommodate larger text entries. It is used quite often for placing a heading across a table at the top rather than leaving it in the top left corner. It is also used together with wrapping to allow longer lines of text to be properly displayed in a worksheet.

- **Aligning Right**

As a default in Microsoft Excel, text typed into a cell is aligned to the left border of the cell while numbers are aligned to the right. Of course this is only the default and you can align text, and numbers for that



Text is sometimes aligned to the right of a cell to convey the impression of indenting the text to enhance readability of the overall data.

**1**

	A	B	C	D
1	<b>Alpheius Global Enterprises</b>			
2	<b>Annual Sales</b>			
3	<b>Health Services</b>			
4				
5		<b>Week 1</b>	<b>Week 2</b>	<b>Week 3</b>
6	<i>Midweek</i>			
7	Tuesday	21,412	25,942	24,944
8	Wednesday	20,824	31,288	37,456
9	Thursday	20,722	29,782	35,963
10	Friday	49,254	64,750	125,811
11				

**2**

	A	B	C	D
1	<b>Alpheius Global Enterprises</b>			
2	<b>Annual Sales</b>			
3	<b>Health Services</b>			
4				
5		<b>Week 1</b>	<b>Week 2</b>	<b>Week 3</b>
6	<i>Midweek</i>			
7	Tuesday	21,412	25,942	24,944
8	Wednesday	20,824	31,288	37,456
9	Thursday	20,722	29,782	35,963
10	Friday	49,254	64,750	125,811
11				

**Figure 26: Alignment right**





Self-Check -5	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the page:

**Say true or false**

1. Wrapping is a process used in word processors where long sentences automatically wrap to text entries.
2. Horizontal and vertical alignment data in a cell can be positioned only horizontally.

**Note: Satisfactory rating - 1 points**

**Unsatisfactory - below 1 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score =

Rating: \_\_\_\_\_

**Short Answer Question**

Operation sheet -5	Aligning Information in a selected cell
--------------------	---

**Follow these steps to change the horizontal or vertical alignment of cell data**



Step-1 Select the cells you want to align

Step-2. On the Home tab, select a horizontal alignment

Step-3 Align Text Left: Horizontally aligns the data along the left edge of the cell

Step-4. Align Centers the data horizontally in the middle of the cell. If you modify the column width, the data remains centered to the new column width.

Step-5 Align Text Right: Horizontally aligns the data along the right edge of the cell.

<b>Information Sheet-6</b>	<b>Opening and switching between word documents / spread sheets/ database</b>
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## 6.1. Introduction

Spreadsheet offers quasi-structured data in a row-and-column format, but spreadsheets don't intrinsically relate to each other and don't require rules about the information contained within them. In addition, they lack sophisticated summarization-and-reporting tools. Databases, on the other hand, collect information in a structured fashion and enforce, by default, rules and relationships about what goes in and out.



Spreadsheets are optimized for finance and simple data analysis. They present a grid of information, with the content, formatting, appearance, and structure determined by the spreadsheet owner. Databases, by contrast, require a formalized structure and separate the information from the appearance of that information. Whether databases or spreadsheet make the most sense for a given purpose follows from a handful of use-case characteristics

Although lookup formulae and named regions tie some parts of spreadsheets together, in general, a spreadsheet is a self-contained dataset, with limited ability to filter and group across different worksheets and different spreadsheet files. For straightforward number-crunching, this approach is far superior to a database, which incurs a much higher technical debt for initial setup and configuration.

However, any comparison of information among different data sources is a fool's errand in a spreadsheet. A database, which enforces relationships and supports querying based on attributes or subsets within one or more tables, is *designed* to link tables together in various ways and to perform summary statistics on those sub- and supersets.

A spreadsheet is the sum total of what you get: It's both the information and the presentation layer for that information. This approach can streamline some simple reports because the calculations are transparent to anyone who opens the file. Plus, options like rule lines, shading, graphs, and colors help you to make the final output look exactly as you intend.

- **Data Location**

Spreadsheets are self-contained documents that usually reside on individual computers or on file servers. Databases, for the most part, require dedicated database servers, which means that it's more work to create a database but you're not going to misfile it or accidentally delete it.

- **Information Access & Auditing**

Although you're free to password-protect a spreadsheet, you generally can't audit who views or edits it. With a database, however, you cannot view or modify the data unless you have explicit permissions, and any viewing and editing you perform is logged by the database for future discoverability.

In general, spreadsheets are designed to be opened and edited by one person at a time. Databases support many logged-in users simultaneously



- **High-Volume Transactions**

Databases are designed to support the rapid reading and writing of content automatically. Unless you're using some sort of homebrew system of trigger tools like If This Then That, a spreadsheet requires manual entry of information.

Microsoft Excel or Google Sheets are the most commonly used spreadsheet programs—in fact, they're commonly available for free on computers, tablets, and even smartphones.

Apart from Microsoft Access on the desktop (and clones like Libre Office Base), most robust database tools reside on servers. Large companies use options like Microsoft SQL Server or Oracle's server suite, while people in the open-source and Linux communities.

When you do use a database, you'll generally pair it with support tools. Because databases require Structured Query Language to access information, tools like visual report designers (like Crystal Reports) or dash boarding tools (like Tableau) manage both SQL generation and complex report development.

## **6.2. Fundamentals**

Both spreadsheets and databases are used to store and manage sets of data. The basic content in a spreadsheet or a database is a set of data values. Where spreadsheets and databases vary is in how they store and manipulate the data. A spreadsheet stores data values in cells, with multiple cells represented in a system of rows and columns. Cells can refer to other cells, and the spreadsheet can include cells that carry out processing on other cell values.

A database typically stores data values in tables. Each table has a name and one or more columns and rows. A row in a table is called record. A single record includes a value for each column in a table. Databases can enforce relationships between records in different tables.

- **Technologies**

Spreadsheets and databases generally use different technologies. The most widely used spreadsheet program is Excel, which is part of Microsoft Office. Other spreadsheet programs form part of open office and Google Suite.

Database technologies include Microsoft Access, Oracle, MySQL and SQL Server, among many others. Some databases are run on servers and accessed over networks, including the Internet. In most cases, a database will have a software application built



on top of it, providing user access to the data. Databases are built and managed by software programmers and Web developers. Database applications can be written in many programming languages, including Java, PHP, ASP and others.

- **Volume of data**

Spreadsheets are designed to analyze data and sort list items, not for long-term storage of raw data. A spreadsheet should be used for 'crunching' numbers and storage of single list items. Spreadsheet programs provide the means for keeping inventory, statistical data modeling, and computing data.

To store large amounts of raw data, it is best to use a database. This is especially true in circumstances where two or more users share the information. Databases require little or no duplication of data between information tables, and changes made to the data do not corrupt the programming (like at the cell level of a spreadsheet where calculations are running). Furthermore, the two most important benefits gained by using a database are the capacity to increase data integrity and the ease of reporting and sharing data.

- **Processing**

Both spreadsheets and databases offer a range of processing functions. Using these you can manipulate, sort and filter data. Databases offer a greater range of complexity in terms of data manipulation, but this must be expressed in programming or SQL code. However, for basic data processing, spreadsheets provide users with a range of automated functions, which are accessible to people who do not have much technical experience. Some data management needs are only possible using databases, but where this is not the case, a spreadsheet may provide a more usable option.

- **Accessing and presenting**

Access to a spreadsheet is sometimes limited to one person at a time. With database management systems, however, several people can access the same data set. Such systems manage the editing of data so that two people cannot alter the same data values at the same time. This preserves data integrity, which is harder to manage when using spreadsheets.

Output and presentation vary in spreadsheets and databases. With a spreadsheet, you can generate charts and graphs using automated software tools. With a database, such output options are normally a matter for the application providing access to the data. Databases generally require a higher level of technological expertise.

- **Conclusion database vs. spreadsheet**

Both systems have their advantages and disadvantages. Spreadsheets have made a huge step forward due to the presence of Google Sheets. With this tool, multiple people can access the same data set as well. Database vs. spreadsheet, the choice



is up to you, which one would you use? Another great piece of advice we would like to give you: you should always structure your spreadsheets as in a database.

Self-Check -6	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided inpage

**Say true or false**

1. Both spreadsheets and databases are used to store and manage asets of data.
2. To store large amounts of raw data, it is best to use spreadsheets.
3. Spreadsheets are self-contained documents that usually reside on individual computers or on file servers.

**Note: Satisfactory rating - 2 points**

**Unsatisfactory - below 2 points**

Score =

Rating: \_\_\_\_\_



Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Question

Operation sheet -6	opening and switching between word documents / spread sheets/ database
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#### Creating a new database/spreadsheet:

**Step-1** analyzing the data

**Step-2** categorized the data

**Step-3** Division of data

**Step-4** Identify data type

**Step-5** Creating tables

**Step-6** entering data base

**Step-7** Design Forms

**Step-8** forms an option



<b>Information Sheet-7</b>	<b>Formatting features ,styles and format cell</b>
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## 7.1. Introduction

All cell content uses the same formatting by default, which can make it difficult to read a workbook with a lot of information. Basic formatting can customize the look and feel of your workbook, allowing you to draw attention to specific sections and making your content easier to view and understand. You can also apply number formatting to tell Excel exactly what type of data you're using in the workbook, such as percentages (%), currency (\$), and so on.

A cell style in Excel is a combination of formatting options, including font sizes and color, number formats, cell borders, and shading that you can name and save as part of the worksheet.

The formatting options allows for monetary units, scientific options, dates, times, fractions, and more. Positive and negative values can have different colors and formats for aiding in keeping track of values. There are also a large variety of date and time formats for virtually any time and date format one can think of. Formatting also allows you to set font, background color, and borders for selected cells.

Finally, advanced formatting options allow you to lock some of the cells so that their values cannot be changed, or restrict the range of values that can be entered in the selected cells.

To change the formatting of a cell or a selection, you can either use the Format Cells dialog which holds all of the formatting options or use specific formatting elements available as buttons on the Format Toolbar.

With the cell selected, right-click on the cell and select Format Cells from the context menu, or go to Format > Cells on the menu bar, or use the keyboard shortcut Ctrl+1 to open the Format Cells dialog.



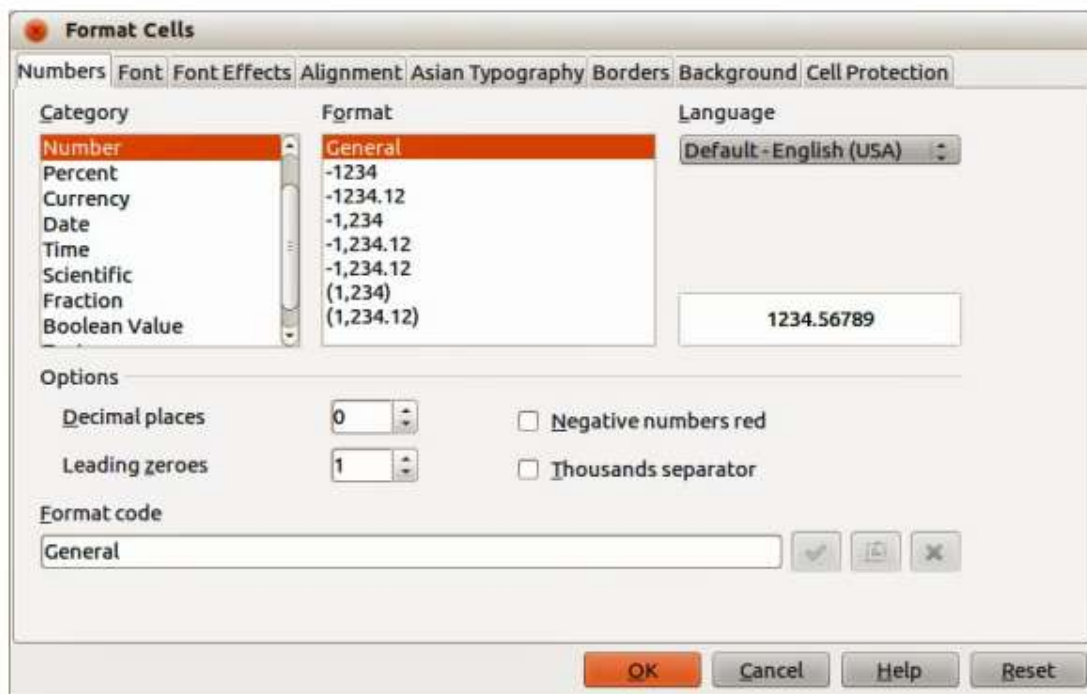
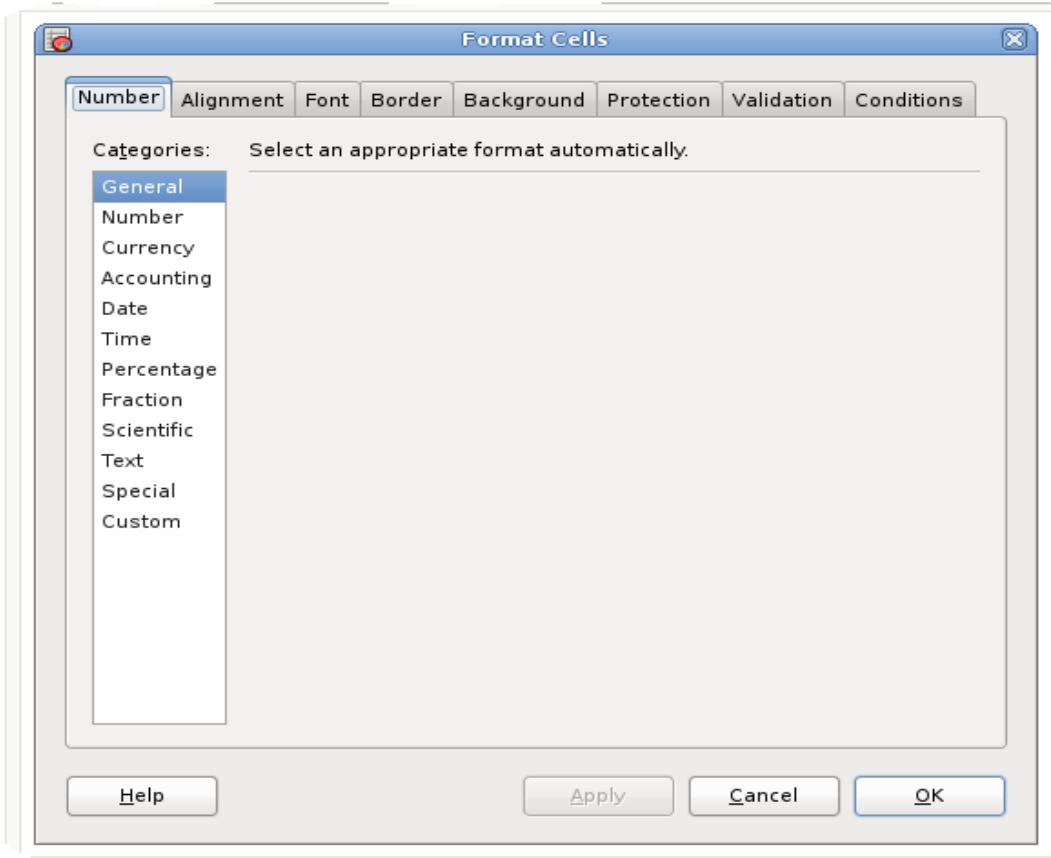


Figure 27: formatting cell



**Figure 28:1.6 format cells**

To retain a minimum number of characters in a cell when entering numbers and retain the number format, for example 1234 and 0012, leading zeroes have to be added as follows:

- ✓ With the cell selected, right-click on the cell and select Format Cells from the context menu, or go to Format > Cells on the menu bar, or use the keyboard shortcut Ctrl+1 to open the Format Cells dialog
- ✓ Make sure the Numbers page is selected, then select Number in the Category list
- ✓ In Options > Leading Zeroes, enter the minimum number of characters required. For example, for four character enter

Any number less than four characters will have leading zeroes added, for example 12 becomes 0012. 4) Click OK. The number entered retains its number format and any formula used in the spreadsheet will treat the entry as a number in formula functions.



If a number is entered with leading zeroes, for example 01481, by default Calculate will automatically drop the leading 0.

- **To preserve leading zeroes in a number:**

- ✓ Type an apostrophe (') before the number, for example '01481.
- ✓ Move the cell focus to another cell. The apostrophe is automatically removed, they are retained and the number is converted to left-aligned text.

- **Numbers as text**

Numbers can also be converted to text as follows:

- ✓ With the cell selected, right-click on the cell and select format cells from the context menu, or go to format > cells on the menu bar, or use the keyboard shortcut ctrl+1 to open the format cells dialog.
- ✓ Make sure the numbers page is selected, then select text from the category list.
- ✓ Click ok. The number is converted to text and, by default, is left-aligned. You can change the formatting and alignment of any text numbers just as you would with normal text

- **Text**

Click in a cell and type the text, the text is left-aligned by default. Cells can contain several lines of text. If you want to use paragraphs, press ctrl+ enters to create another paragraph. On the formula bar, you can extend the input line if you are entering several lines of text. Click on the extend formula bar icon located on the right of the formula bar and the input line becomes multi-line click the extend formula bar icon again to return to a single input line.



Select the cell and type the date or time. You can separate the date elements with a slash (/) or a hyphen (–) or use text, for example 10 Oct 2012. The date format automatically changes to the selected format by calculating. When you enter a time, separate time elements with colons, for example 10:43:45. The time format automatically changes to the selected format by calculating to change the date or time format by calculating.

- ✓ With the cell selected, right-click on the cell select Format Cells from the context menu or go to Format > Cells on the menu bar or use the keyboard shortcut Ctrl+1 to open the Format Cells dialog.
- ✓ Make sure the Numbers page is selected, then select Date or Time from the
- ✓ Category list
- ✓ 3. Select the date or time format you want to use from the Format list
- ✓ 4. Click OK to save the changes and close the dialog

A special character is a character not normally found on a standard keyboard, for example, © ¼ æ ç ñ ö ø ¢.

- ✓ Place the cursor in the cell where you want the character to appear
- ✓ Go to Insert > Special Character on the menu bar to open the special characters.
- ✓ Select in order the special characters you want to insert into the cell. The special characters selected will appear at the bottom left of the Special

Characters dialog. The last character selected is shown on the right of the Special Characters dialog along with its numerical code.

- ✓ Click OK to close the dialog and the special characters are inserted into the selected cell

### Note

- ✓ Different fonts include different special characters. If you do not find a particular special character you want, try changing the Font and Subset selection.

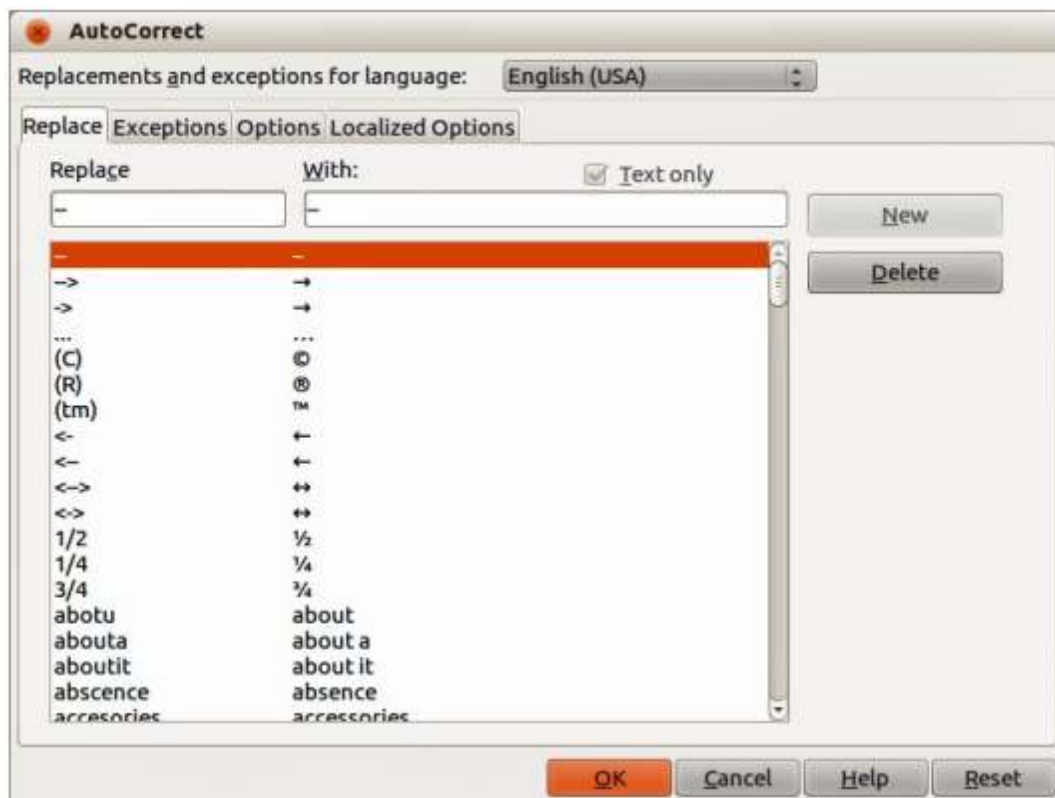


**Figure 30: Special Characters dialog**

- **Auto correction options**

Calculate automatically applies many changes during data input using auto correction, unless you have deactivated any autocorrect changes. You can also undo any auto correction changes by using the keyboard shortcut Ctrl+Z or manually by going back to the change and replacing the auto correction with what you want to actually see.

To change the autocorrect options, go to Tools > AutoCorrect Options on the menu bar to open the AutoCorrect dialog.



**Figure 31: AutoCorrect dialog**

- **Replace** – edits the replacement table for automatically correcting or replacing words or abbreviations in your document.
- **Exceptions** – specify the abbreviations or letter combinations that you do not want Libre Office to correct automatically.
- **Options** – select the options for automatically correcting errors as you type and then click Ok.
- **Localized Options** – specify the AutoCorrect options for quotation marks and for options that are specific to the language of the text.
- **Reset** – resets modified values back to the Libre Office default values

## 7.2. Inserting dashes

Calculation provides text shortcuts so that you can quickly insert dashes into a cell and these shortcuts are shown in Table 1



**Table 1: Inserting dashes**

<i>Text that you type</i>	<i>Result</i>
A - B (A, space, hyphen, space, B)	A – B (A, space, en-dash, space, B)
A -- B (A, space, hyphen, hyphen, space, B)	A – B (A, space, en-dash, space, B)
A--B (A, hyphen, hyphen, B)	A—B (A, em-dash, B)
A-B (A, hyphen, B)	A-B (unchanged)
A -B (A, space, hyphen, B)	A -B (unchanged)
A --B (A, space, hyphen, hyphen, B)	A –B (A, space, en-dash, B)

**Self-Check -7**

**Written Test**

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the page:

**Say true or false**

1. A special character is a character not normally found on a standard keyboard.





2. Any numbers that have been formatted as text in a spreadsheet will be treated as a zero

**Note: Satisfactory rating - 1 points**

**Unsatisfactory - below 1 points**

You can ask your teacher for the copy of the correct answers.

**Answer Sheet**

Score =

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Short Answer Question**

<b>Operation sheet -7</b>	<b>Formatting features ,styles and format cell</b>
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The following steps are used to determine for a format cell

**Step-1** Select a worksheet cell

**Step-2** Apply all desired formatting options to this cell

**Step-3** Click the Home tab on the ribbon

**Step-4** Click Cell Styles on the ribbon to open the Cell Styles Gallery.

**Step-5** Click New cell styles at the bottom of the gallery

**Step-6** Type a name for the new style in the Style name box

**Step-7** For more options, click the Format button in the Style dialog box to open the Format Cells dialog box

**Step-8** Click a tab in the dialog box to view the available options

**Step-9** Apply all desired changes





**Step-10** Click OK to return to the Style dialog box

**Step-11** Underneath the name is a list of the formatting options that you selected.  
Clear the checkboxes for any unwanted formatting

**Step-12** Click OK to close the dialog box and return to the worksheet

Information Sheet-8	Using technical functions and formatting tools
---------------------	--

### 8.1. Introduction

Formatting is the fine art of making your documents effective and attractive. Good formatting distinguishes different parts of your text and helps your readers take in your message. You can apply formatting to just about every element of your document, from a single character to entire paragraphs. Body text needs to be readable and easy on the eyes. Headings should be big and bold, and they should also be consistent throughout your document. Important words need to resonate with emphasis. Quotes and references should be set off from the other text.

This chapter starts with the basics: how to format individual characters and words .selecting fonts and making characters bold, italicized, underlined, or capitalized. You learn how to format paragraphs with indents and spacing, and how to control the way Word breaks up the words in a line and the lines in a paragraph. Finally, you find out how to copy and reuse formatting with tools like the Format Painter and style sets.



## 8.2. Formatting Basics

Word deals with formatting on three levels encompassing small and specific on up to big and broad—through characters, paragraphs, and sections. You apply different types of formatting to each of these parts. Character formatting includes selecting a font, a font size, bold or italics, and so on. At the paragraph level, you apply indents, bullets, and line spacing. For each section of your document (even if there's only one), you set the page size, orientation, and margins, as described in the previous chapter. Sometimes it helps to think of the parts of a document as Russian nesting dolls: Characters go inside paragraphs, which go inside sections, which fit inside your document.

Each type of formatting has its own dialog box, giving you access to all possible settings. You can also apply most types of formatting via the ribbon, the mini-toolbar, or the keyboard shortcut.

**Characters.** Use the Font dialog box (Alt+H, FN) to format characters. Letters, numbers, and punctuation marks are all printable characters and, as such, you can format them. Once you select a character or a group of characters, you can apply any of the formatting commands on the Home tab's Font group (Alt+H). You can choose a font and a size for any character in your document. You can make characters bold, underlined, superscript, or change them to just about any color of the rainbow.

**Paragraphs:** Use the Paragraph dialog box (Alt+H, PG) to format paragraphs. You can set formatting for text alignment, indents, line spacing, line breaks, and paragraph breaks. You don't have to select a paragraph to format it; just click to place the insertion point within a paragraph. Because characters are part of paragraphs (remember those Russian nesting dolls), every paragraph includes a basic font description. When you select characters within a paragraph and change the font settings, you override the basic font description in the paragraph's style.

## 8.3. Formatting Characters

Every character in your document is formatted. The formatting describes the typeface, the size of the character, the color, and whether or not the character is underlined, bold, or capitalized. It's easy to change the formatting, and Word gives you quite a few different ways to do it. The easiest and most visual way is with the ribbon (Home → Font). You can further fine-tune the font formatting using the Font dialog box (Alt+H, FN)

For quick formatting, you may not need to go any further than the mini-toolbar that pops up when you select text for formatting. And when you get really good,



you can do most of your formatting with keyboard shortcuts, never even slowing down long enough to reach for the mouse.

Whichever method you use, formatting is a two-step process. First, tell Word which text you want to format by selecting it. Then format away. Or, you can set up your formatting options first, and then begin to type. Your letters and words will be beautifully formatted from the get-go.

## **8.4. Formatting with the ribbon or the font dialog box**

Since character formatting is one of the most often used Word features, Microsoft put the most popular settings right on the Home tab. If you don't see what you're looking for there, then you must open the Font dialog box. The good thing about the dialog box is that it puts all your character formatting options in one place so you can quickly make multiple changes. It's one-stop shopping if you want to change the typeface and the size, and add that pink double-underline.

### **8.5. Steps for formatting:**

#### **✓ Select a group of characters**

You can use any of the selection methods described. You can drag to select a single character. You can double-click to select a word. Or you can move the mouse cursor to the left side of a paragraph, and then double-click to select the whole paragraph.

Of course, if you haven't typed anything yet, you can always go right to the ribbon and make your formatting choices first. Then type away. Go to Home → Font or the Font dialog box (click the little launcher button shown in or press Alt+H, FN) and make your formatting choice. Many of the buttons in the Font group act like toggles. So, when you select text and click the underline button, Word underlines all the characters in the selection. When you click the underline button again, the underline goes away.

If you can't find the command you want on the ribbon, or if you want to make several character formatting changes at once, then open the Font

#### **✓ Formatting with the Mini Toolbar**

Word's Mini Toolbar isn't quite as much fun as your hotel room's mini-bar, but there are times when you'll be glad it's there. A new feature in Word 2007, the Mini Toolbar pops up after you've selected text. It's faint at first, but if you move your mouse toward it, the Mini Toolbar comes into focus showing commands, most of which are



character formatting commands. Just click one of the buttons to format your selection (or move your mouse away from the toolbar if you want it to go away).

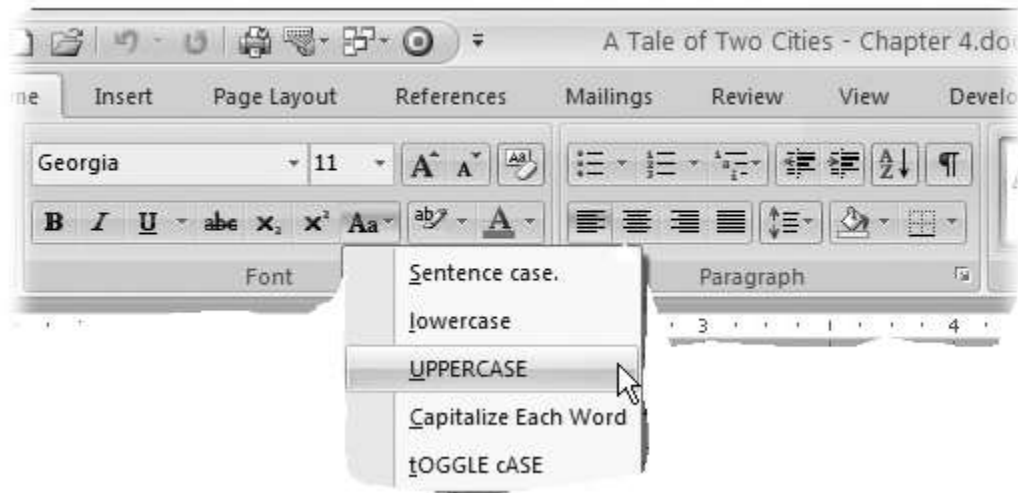
### ✓ **Formatting with Keyboard Shortcuts**

When you're typing away and the muses are moving you, it's a lot easier to hit Ctrl+I to italicize a word than it is to take your hands off the keyboard and grab a mouse. Because most formatting commands work like toggles, formatting options like bold, underline, and italics become second nature. For example, to italicize a word, just press Ctrl+I at the beginning, type the word, and then press Ctrl+I at the end. your cheat sheet to every character formatting shortcut known to Word.

### ✓ **Changing Capitalization**

Any letter can be uppercase or lowercase, but when you get to words and sentences, you find some variations on the theme. It's not unusual to have a heading or a company name where all the letters are capitalized. Sentences start with an initial cap on the first word only, and titles usually have the major words capped. In an effort to automate anything that can possibly be automated, Microsoft provides the Change Case menu (Alt+H, 7) on the ribbon.

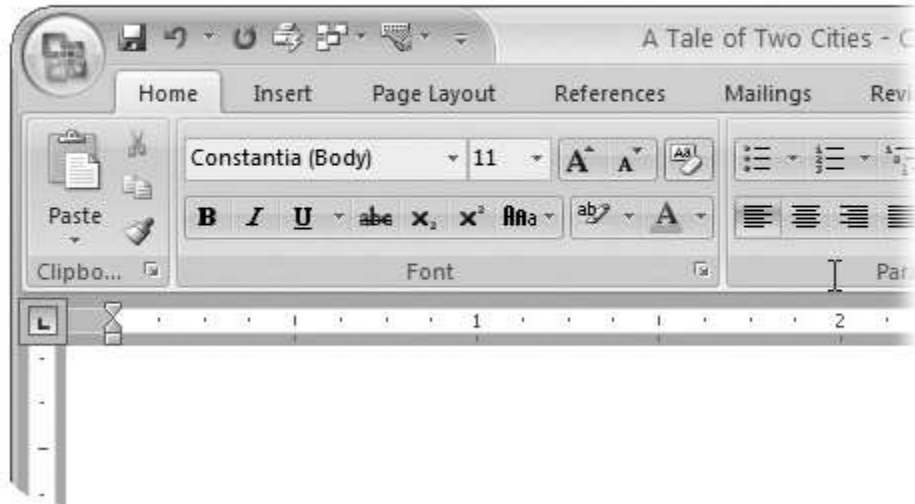
The Change Case command defies the usual rules about selecting before you apply character formatting. If you don't select anything, word assumes you want to apply the Change Case command to an entire word, so the program selects the word at the insertion point. If you've selected text, the command works, as you'd expect, only on the selection.



**Figure 32:** capitalization format

### **Small caps for headers**

are another variation on the capitalization theme. You won't find this option on the Change Case button; for small caps you have to use the Font dialog box, which you find on the right side under Effects (where underline or strikethrough are). Small caps are great for headings and letterhead (especially if you're a lawyer or an accountant), but you wouldn't want to use them for body text. It's difficult to read all capitalized text for an entire paragraph.



**Figure 33:** small caps

### ✓ **Formatting Paragraphs**

Formatting a paragraph usually entails changing its shape. You may be squeezing it in with indents or stretching it out with additional line spacing. Other kinds of formatting change a paragraph's very nature, like adding a border or making it part of a numbered or bulleted list. The Paragraph formatting group (Home → Paragraph) is right next door to the Font group. You don't need to *select* text to format a paragraph; just make sure the insertion point is in the paragraph you want to format. However, if you want to format several paragraphs at once, select them all before you apply a command.

### **Aligning Text**

It's easy to apply alignment to text. With your insertion point in the paragraph you want to change, click one of the alignment buttons in the Paragraph group on the Home Tab. For example, Home → Paragraph → Left sets the current paragraph's alignment.

**Left (Alt+H,AL):** Aligns the lines in the paragraph flush on the left side and ragged on the right. alignment is standard for letters, reports, and many business documents.



**Centered (Alt+H, AC).** Centers each line in the paragraph, leaving both left and right margins ragged. This setting is appropriate for headings and short chunks of text, as in invitations and advertisements. Avoid using centered text for long paragraphs, since it's hard for readers' eyes to track from the end of one line to the beginning of the next when the left margin is uneven.

**Right (Alt+H, AR).** Aligns the lines in the paragraph flush on the right side and ragged on the left. This unusual alignment is most often used for setting captions or quotations apart from the main text.

**Justified (Alt+H, AJ):** Adds space between letters and words so that both the left and right sides of the paragraph are straight and flush with the margins. Justified margins give text a more formal look suitable for textbooks or scholarly documents. If your justified text looks odd because big gaps appear between the letters or words, try using a long line that is, putting more characters per line. You can do this by extending the margins (Alt+P, M) or by changing the size of your font (Alt+H, FS).

<b>Self-Check -8</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the page:(2point each)

**Say true or false**

1. Formatting is the fine art of making your documents effective and attractive
2. Alignment is standard for letters, reports, and many business documents.

**Note: Satisfactory rating - 2 points**

**Unsatisfactory - below 2 points**





## Answer Sheet

Score =

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Question

Operation sheet -8	Technics of functions and formatting tools
--------------------	--

### Basic steps to determine the formatting :

**Step-1** Change the font

**Step-2** Change the size of the font

**Step-3** Change the font color

**Step-4** Make the text bold, italics, or underline

**Step-5** Change the alignment

**Step-6** Change the style to currency, percent, or comma

**Step-7** Increase or decrease decimal and indent

**Step-8** Change the borders





<b>Information Sheet-9</b>	<b>Highlighting and coping text</b>
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### 9.1. Introduction

One of the nice features of acrobat is that you can highlight text and then export only the highlighted part into a different document. However, in order to do that, the user has to remember to tick the option "Copy selected text into Highlight, Cross-Out, and Underline comment pop ups" in Edit - Preferences - Commenting. Unfortunately, this setting is not on by default and only available in Acrobat (8,9 and X) but not in Acrobat Reader,

It can happens that we highlight a really big document in order to export the highlighted parts, and then we remember that the "Copy selected text..." was actually off! Our highlighted parts won't be commented, meaning that we cannot export them (actually, we \*can\* export them, but they will be just empty boxes). There is no way to retroactively copy all the highlighted part into comment from the graphic interface.

You can add text to a title using the standard copy and paste clipboard functionality Copied text can be pasted into the program where text is supported, for example, into text buttons, certificates, questions and more. When pasting text as a new text block, the text block can be expandable to allow the entire text to be displayed.

The program will automatically create a text block with the pasted text, however, in most cases, it will need to be resized to fit all of the text. Double-click the text block to



automatically resize it vertically until all the text is displayed. Alternatively, resize the text block by dragging the sides or corners of the text block to the appropriate size.

## 9.2. To copy and paste text from an existing document

- Open the source document containing the text that you want to add to the title. For example, if you are copying from a Microsoft Word document, open the document in Word.
- Highlight and copy the text according to the options available within the application hosting the source document. Most allow copying text by highlighting the text and typing the Ctrl+C keyboard shortcut.
- Click within the page in to which you want to add the copied text.
- To paste the text as formatted text, select the arrow under Paste in the Clipboard group on the Home ribbon and select Paste Formatted or the Ctrl+Alt+V (formatted) keyboard shortcut. The formatted text is added to the title.

## 9.3. The basic steps to copy and move are as follows

- Select the text you want to copy or move
- Copy (or cut) the selected text
- Reposition the insertion point at the target location
- Paste the text you copied (or cut)

Some methods for copying, cutting, and pasting text work better in certain situations. For example, if your hands are already on the keyboard, the keyboard methods might be more convenient. Others prefer to use the mouse. Experiment with the different methods and find your favorites.

- **To copy selected text, perform one of the following actions:**

- ✓ Click the Copy button
- ✓ Choose Edit, Copy
- ✓ Right-click the selected text and choose Copy
- ✓ Press Ctrl+C
- ✓ Press Ctrl+4Insert.

- **To cut selected text, perform one of the following actions:**

- ✓ Click the Cut button.
- ✓ Choose Edit, Cut.
- ✓ Right-click the selection and choose Cut.



- ✓ Press Ctrl+X.
- ✓ Press Shift+Delete.
- **To paste selected text, perform one of the following actions:**
  - ✓ Click the Paste button
  - ✓ Choose Edit, Paste
  - ✓ Right-click in the document and choose Paste
  - ✓ Press Ctrl+V.
  - ✓ Press Shift+Insert.
  
- **To drag and drop text, do the following:**
  - ✓ Select the text you want to move or copy.
  - ✓ Position the mouse pointer on the highlighted text. The pointer changes to an arrow.
  - ✓ If you want to move the text, click and hold down the mouse button; if you want to copy the text, hold down the Ctrl key before you click and hold down the mouse button.
  - ✓ Drag the mouse to the target location. The mouse pointer changes to an arrow along with a small rectangular box. An insertion point also appears showing you exactly where the text will be inserted when you release the mouse button.
  - ✓ Release the mouse button.
  - ✓ The text is still selected, so if you didn't get the text right where you wanted it, click and drag it again.
  - ✓ When you have the selection where you want it, click in the document window to deselect the text.



Self-Check -9	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the page:(2point each)

**Say True or false**

1. One of the nice features of acrobat is that you can highlight text and then export only the highlighted part into a different document.
2. Control plus A is selection and also used to indicate highlight.

**Note: Satisfactory rating - 2 points**

**Unsatisfactory - below 2 points**

**Answer Sheet**

Score =

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Short Answer Question**



Operation sheet -9	Technics of Highlighting and coping text
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**The basic steps to copy and move are as follows:**

- Step-1** Select the text you want to copy or move
- Step-2.** Copy ( cut) the selected text
- Step-3.** Reposition the insertion point at the target location
- Step-4 .** Paste the text you copied ( cut)

Information sheet-10	Inserting Headers and footers
----------------------	-------------------------------

## 10.1. Introduction

You can make your document look professional and polished by utilizing the header and footer sections. The header is a section of the document that appears in the top margin, while the footer is a section of the document that appears in the bottom margin. Headers and footers generally contain information such as the page number, date, and document name. Headers and footers can help keep longer documents organized and make them easier to read. Text entered in the header or footer will appear on each page of the document.

- **To insert a header or footer:**

- ✓ Select the Insert tab

Click either the Header or Footer command. A drop-down menu will appear

From the drop-down menu, select Blank to insert a blank header or footer, or choose one of the built-in options

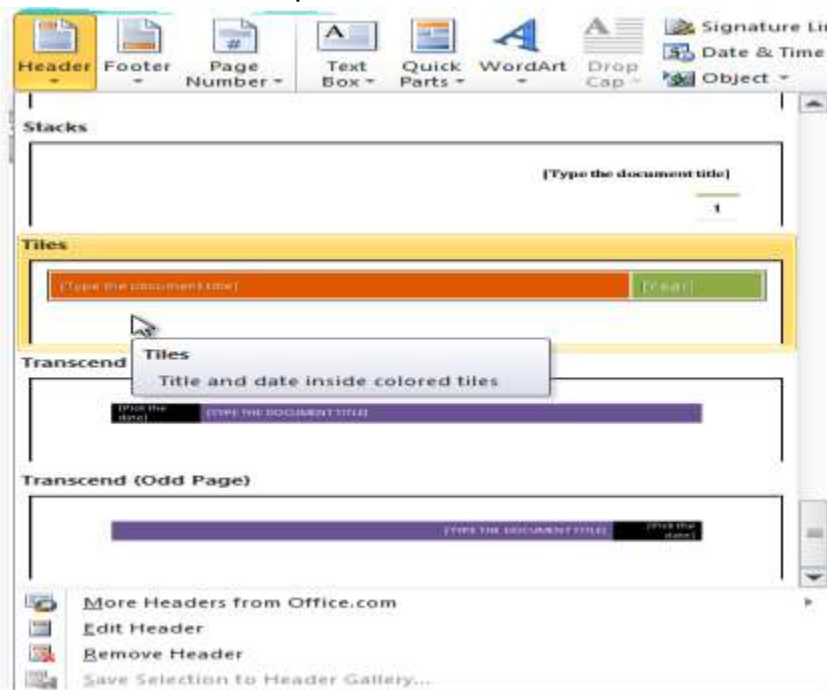


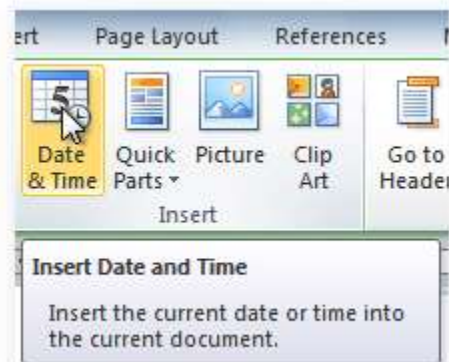
Figure 34: header format

The Design tab will appear on the Ribbon, and the header or footer will appear in the document type to the desired information into the header or footer. When you're finished, click Close Header and Footer in the **Design** tab, or hit the **Esc** key.

After you close the header or footer, it will still be visible, but it will be **locked**. To edit it again, just double-click anywhere on the header or footer, and it will become unlocked.

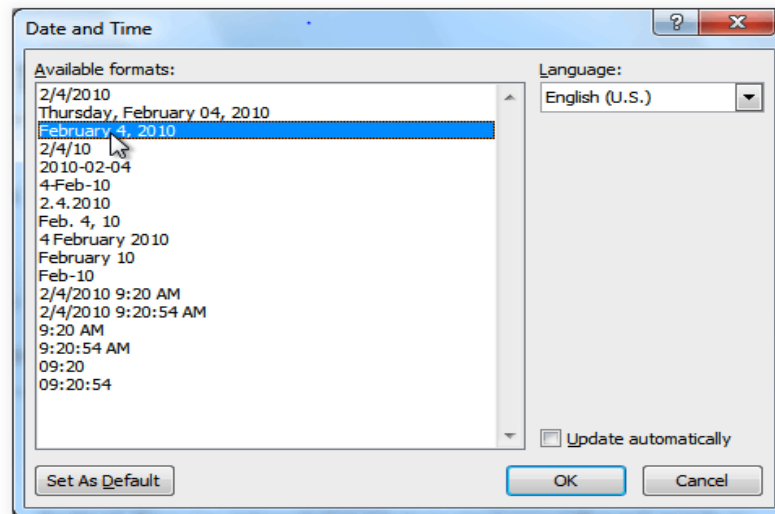
- **To insert the date or time into a header or footer:**

- ✓ Double-click anywhere on the header or footer to **unlock** it. The **Design** tab will appear.
- ✓ From the Design tab, click the Date & Time command



**Figure 35: insert time and date**

Select a **date format** in the dialog box that appears.

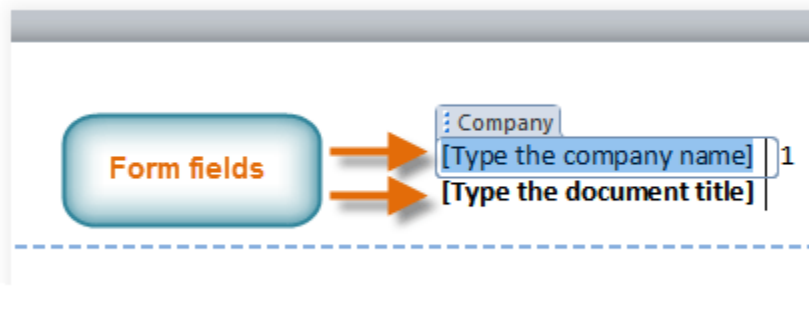


**Figure 36: Date and time finder**

Place a check mark in the update automatically box if you would like it to always reflect the current date. Otherwise, it will not change when the document is opened at a later date. Click OK. The date and time now appears in the document

- **To remove content controls:**

Some of the built-in headers and footers have snippets of text that are called content controls. Content controls can contain information such as the document title or company name, and they allow you to enter this information into a **form field**.



**Figure 37: content creator format**



However, you'll often just want to type a normal header without any content controls. To do this, you'll need to remove any content control fields from the header or footer. With the header or footer section active, right-click the **content control** field you want to remove. A drop-down menu will appear.

- ✓ Click **Remove Content Control**. The content control field will disappear

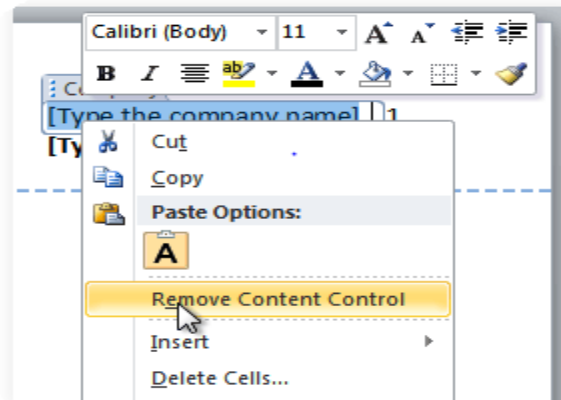


Figure 38: content control

- **Other header and footer options**

There are many other header and footer options you can use to design these sections of your document. You can review the Header & Footer Tools Design tab to view and explore these options.



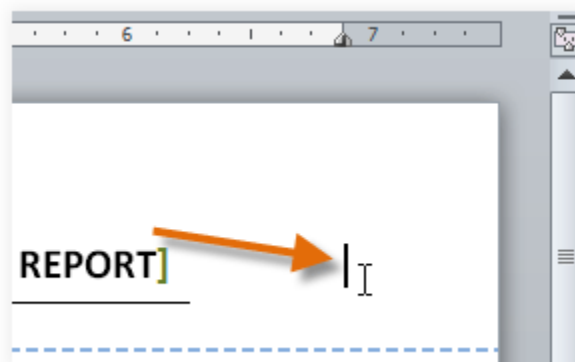
Figure 39: options of header and footer

- **Adding page numbers**

Word can automatically label each page with a page number and place it in a header, footer, or side margin. You can add page numbers to an existing header or footer, or you can insert page numbers into a new header or footer.

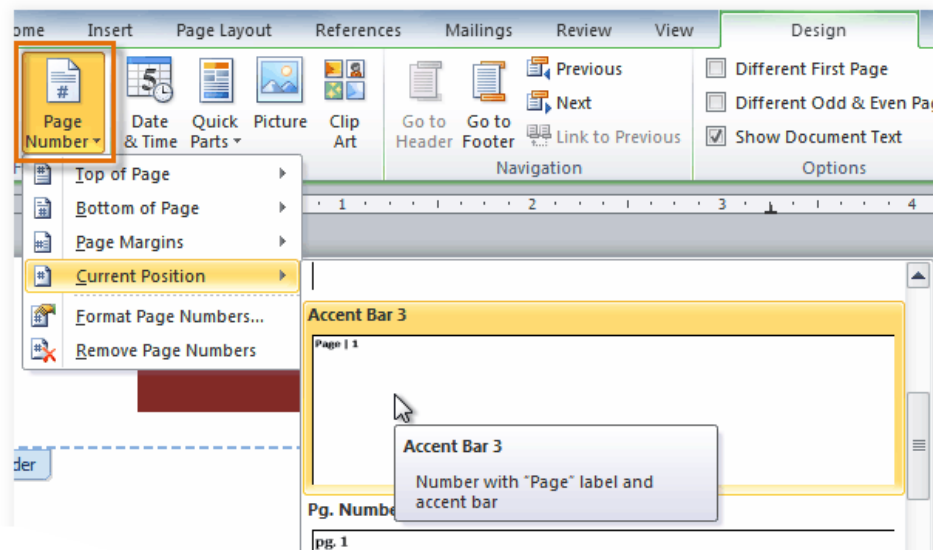
- **To add page numbers to an existing header or footer:**

Select the header or footer. The Design tab will appear. Place the insertion point where you want the page number to be. You can place it anywhere except inside a content control field



**Figure 40: page number word**

From the Design tab, select the Page Number command Click Current Position, then select the desired style. The page number will appear in the document.

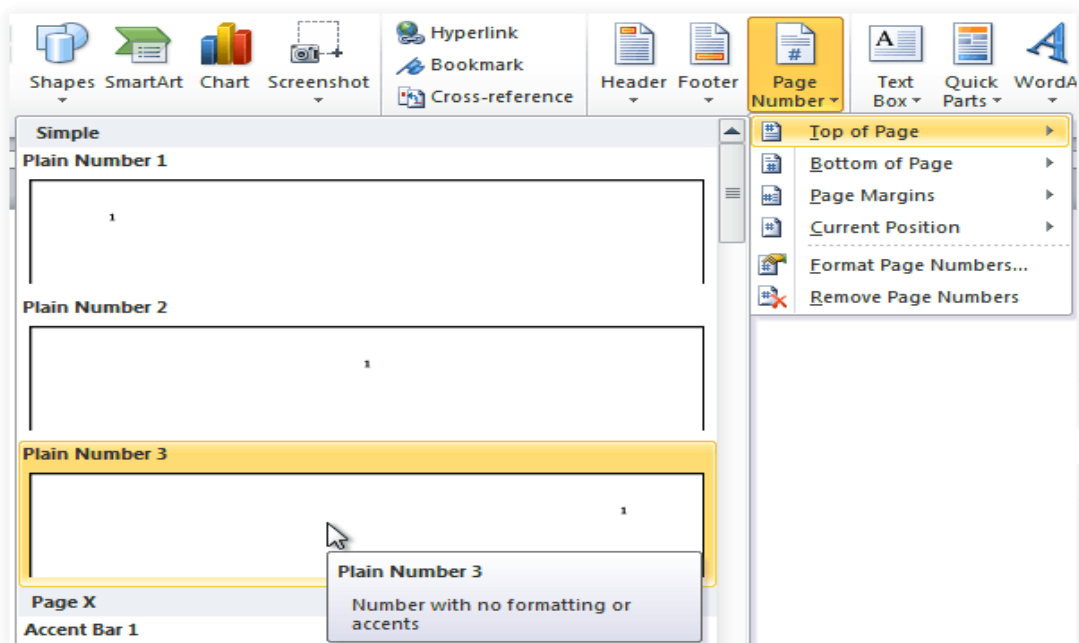


**Figure 41: page number format**

If you've already typed information into your header or footer, it's important to place the page number at the Current Position to avoid losing anything. If you select a page number from Top of Page or Bottom of Page, it will delete anything you've already added to the header or footer

**To insert page numbers into a new header or footer:**

From the **Insert** tab, click **Page Number**. A drop-down menu will appear  
Select the desired page number style, and it will appear in your document

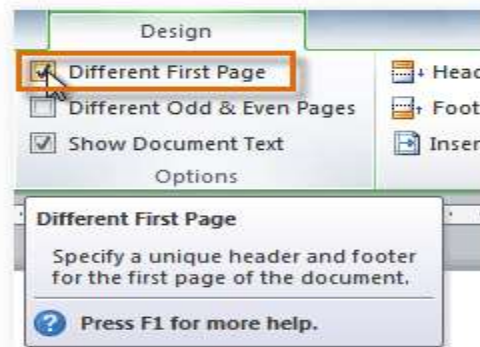


**Figure 42: Page number format**

**To hide the page number on the first page:**

In some documents, you may not want the first page to show the page number. You can **hide the first page number** without affecting the rest of the pages. Select the **header** or **footer** that contains the page number

From the **Design** tab, place a check mark next to **Different First Page**. The header and footer will disappear from the first page. If you want, you can **type something new** in the header or footer, and it will only affect the **first page**.

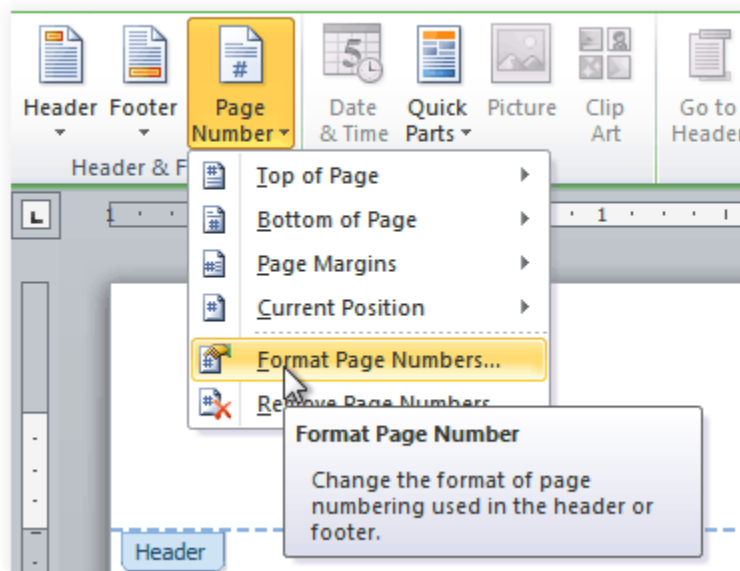


**Figure 43: page number setting**

If you're unable to select different First Page, it may be because an object within the header or footer is selected. Click in an empty area within the header or footer to make sure nothing is selected.

**To format page numbers:**

- ✓ Select the header or footer that contains the page number
- ✓ From the Design tab, select the page number command
- ✓ Click Format Page Numbers



**Figure 44: format page number**

From the dialog box, select the desired Number format

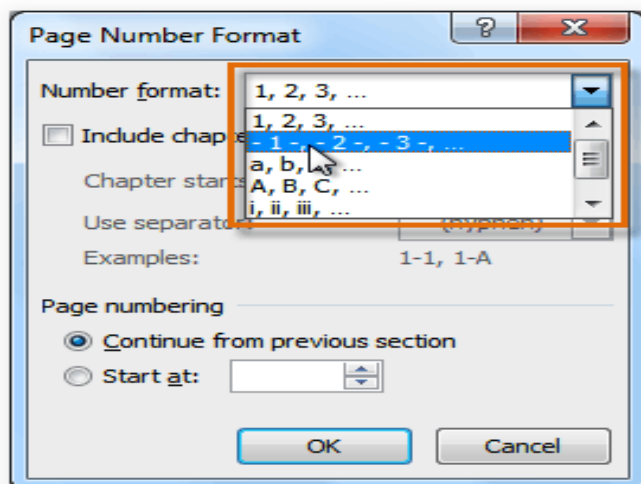


Figure 45: number format

- ✓ Next to **Start at**, enter the number you want the page numbers to start with.

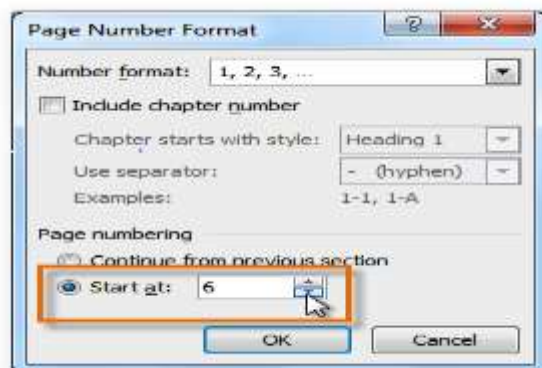


Figure 46: page number format



Self-Check -10	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the page :(2 point each)

**Say true or false**

1. An alternative way to modify your page numbering is by using section headed number
2. Headers and footers can help keep longer documents organized and make them easier to read

**Note: Satisfactory rating - 2 points**

**Unsatisfactory - below 2 points**

**Answer Sheet**

Name: \_\_\_\_\_

**Short Answer Question**

Date: \_\_\_\_\_

Score =

Rating: \_\_\_\_\_



<b>Operation sheet -10</b>	<b>Technics to inserting Headers and footers</b>
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**Technics to inserting Headers and footers:**

**Step- 1** Select the Insert tab

**Step- 2** Click either the Header or Footer command. A drop-down menu will appear

**Step- 3** From the drop-down menu, select Blank to insert a blank header or footer, or Choose one of the built-in options



## Information Sheet-11

## Saving document in file format and storage device

### 11.1. Introduction

You may be required to type papers or homework assignments in a word processing program and save the files to a local computer or flash drive. Once saved, the documents can be attached to messages or submitted as a file to the assignment tool in Canvas. Microsoft Word is often the preferred word processing program for creating assignments.

In some courses instructors may require that you submit assignment files in a Word format (.doc or .docs). Be sure to review the syllabus for each course or ask your instructor what is required. If you do not have access to Microsoft Word, we recommend that you still save your assignment files in the Word or rich text format.

If you submit documents not in the Word or rich text file format, instructors may not be able to open them. When documents are saved in a word processing program they are typically saved in the word processing program's default proprietary file format. For example, Open Office documents are saved in .odf format and WordPerfect documents are saved in the .wpd format. In the table below you can see the icons that will appear next to documents of different types on your computer.

#### • Save As

A command in the File menu of most applications that causes a copy of the current document or image to be created. It differs from the regular Save command, which stores the data back to the file and folder it originally came from. "Save As" lets the user make a copy of the file in a different folder or make a copy with a different name

#### • Save and Save As have one very basic difference

Save: - It is used to save a document or anything (which you want to save) with a name.

Save As :- Is used to save an already saved document or anything (which you want to save) with a new name.

- ✓ In simple words with Save you save something with SaveAs you create a copy of already saved thing with a new name obviously.

WordPerfect cannot be opened in Microsoft Word.

### 11.2. Steps to Save Open Office Documents as Word Documents:

- From the File menu, select Save As
- The Save As dialog box will display.

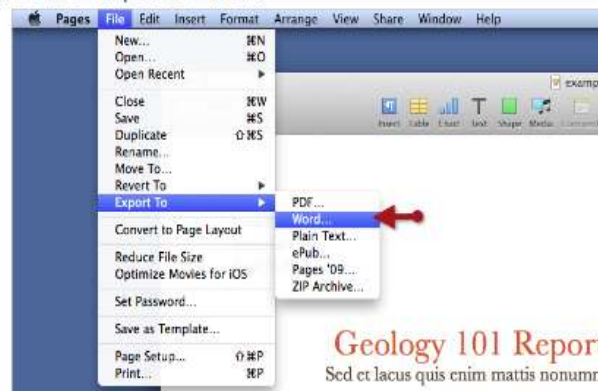


- Choose a location on your computer to save your file. You may want to create a folder to store all your class assignments.
- Next to File Type is a drop down menu; select Rich Text Format (.rtf) or Microsoft Word(\*.doc)
- Click Save. A copy of your document has been saved as Rich Text Format or Microsoft Word format.

### Steps to Save Apple Pages Documents as Word Documents

Note: For Apple's Pages you must export the document to the Word format

1. Go File > Export To > Word.



**Figure 47: save format**

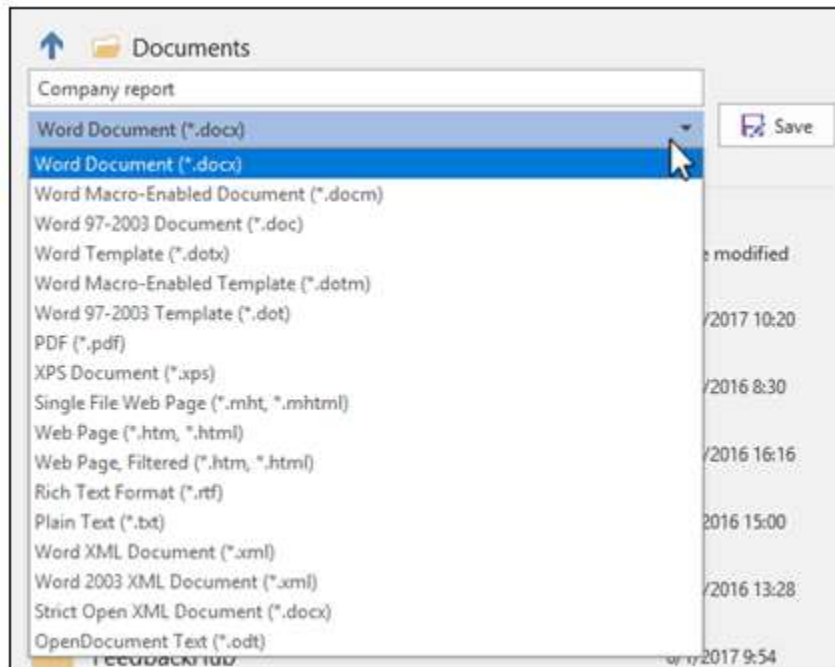
- The Export dialogue box will open.
- The first screen will ask if you want to password protect the document; do not select this. Click Next...
- Choose a location on your computer to save your file. You may want to create a folder to store all your class assignments.
- Click Export. A copy of your document has been saved as Rich Text Format or Microsoft Word format.
- **Save as a different format**

You might want to save your file in another format so that you, or somebody else, can open the file in a different program or older version. For example, you might want to save your Word document as a Rich Text File (RTF) or your Excel workbook as a Comma-Separated Values (CSV) file.

### Steps to save different format:

- ✓ Click the File tab.
- ✓ Click Save As.
- ✓ Choose a file location, such as One Drive or This PC to store your file.
- ✓ In the File name box, enter a new name for the file.

- ✓ In the Save as type list, click the file format that you want to save the file in. For example, click Rich Text Format (.rtf), Word 97-2003 (.doc), Web Page (.htm or .html), or Comma Delimited
- ✓ Click save



**Figure 48: different types of saving format**

**Self-Check -11****Written Test**

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the page:(2point each)

**Choose the best answer**

1. It is used to save a document or anything (which you want to save) with a name  
A. saves      B. Save as      C. Documenting      D. all
2. it is used to save an already saved document or anything (which you want to save) with  
A. Save as      B. Save      C. storage

**Note: Satisfactory rating - 2 points**

**Unsatisfactory - below 2 points**

**Answer Sheet**

Score =

Rating: \_\_\_\_\_

Name: \_\_\_\_\_ date: \_\_\_\_\_



Operation sheet -11	Saving document in file format and storage device
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### Steps to save a document or files

- Step-1** Click the File tab
- Step-2** Click Save As
- Step-3** Choose a file location, such as One Drive or This PC to store your file
- Step-4** In the Save as type list, click the file format that you want to save the file in. For example, click Rich Text Format (.rtf), Word 97-2003 (.doc), Web Page (.htm or .html), or Comma Delimited



LAP Test	Practical Demonstration
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**Instructions:** Given necessary templates, tools and materials you are required to perform the following tasks within --- hour.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

Task-1. Adjust page layout

Task-2 Open and view different toolbars

Task-3 Change font format /font settings

Task-4 Change and modify alignment, line spacing and margin

Task-5. Align Information in a selected cell

Task-6 Open and switch between word documents / spread sheets/ database/

Task-7 Format features, styles and format cell

Task-8 Use technical functions and formatting tools

Task-9 Highlight and copy text

Task-10 Insert Headers and footers

Task-11 Save document in file format and storage device



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# **Solar PV System Installation and Maintenance Level II Learning Guide- 67**

<b>Unit of Competence: -</b>	<b>Solar PV System Installation and Maintenance</b>
<b>Module Title: -</b>	<b>Operate Application Software Packages</b>
<b>LG Code:</b>	<b>EIS PIM2 M12 LO-LG67</b>
<b>TTLM Code:</b>	<b>EIS PIM2 M12 1019v1</b>

**LO3: Create tables and add images to word document**



<b>Instruction Sheet</b>	<b>Learning Guide # 58</b>
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This learning guide is developed to provide you the necessary information regarding the following content coverage and topics

- Inserting standard table is into document
- Changing cells (insert and delete columns and rows) to meet information requirements
- Inserting appropriate images into document and customise as necessary
- Positioning images and resizing to meet document formatting needs
- Ensuring the naming and storing/ saving documents in appropriate directories or folders and the printing of documents to the required specifications

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- Insert standard table is into document
- Change cells (insert and delete columns and rows) to meet information requirements
- Insert appropriate images into document and customise as necessary
- Position images and resize to meet document formatting needs
- Ensure the naming and storing/ saving documents in appropriate directories or folders and the printing of documents to the required specifications



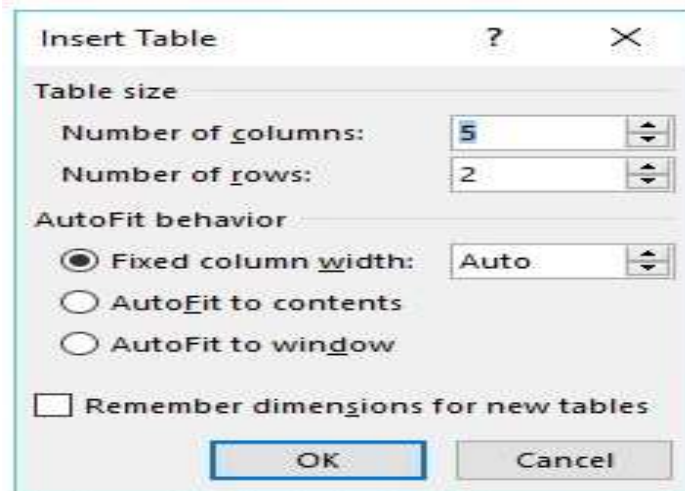


### **Learning Instructions:-**

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 4.
3. Read the information written in the information Sheet 1, Sheet 2, Sheet 3, Sheet 4, Sheet 5, in pages 3, 7, 10, 17 and 20 respectively.
4. Accomplish the Self-check 1, Self-check 2, Self-check 3, Self-check 4, Self-check 5, in pages 6, 9, 16, 19, and 22 respectively

**Information Sheet-1****Inserting standard table is into document****1.1. Introduction**

- **Creating a table in Word 2019 with the Insert Table dialog box**
  - ✓ Click the Insert tab.
  - ✓ Move the cursor where you want to insert a table.
  - ✓ Click the Table icon. ...
  - ✓ Click Insert Table. ...
  - ✓ Click in the Number of Columns text box and type a number between 1 and 63, or click the up or down arrow to define the number of columns.



The Insert Table dialog box lets you specify an exact number of rows and columns.

**Figure 49: Insert table**

- **Format Tables in Word**

You can format tables in Word to clarify the data and also enhance the appearance of the information. Word has many pre-created table formats you can apply to your tables. In addition to these table styles, you can also select individual elements of the table and then apply your own custom formatting, if desired. To format tables in Word by applying a table style, start by clicking into the table to format. Then click the “Design” tab in the “Table Tools” contextual tab in the Ribbon.

**Format Tables in Word: Instructions**



- ✓ To format tables in Word by applying a table style, click into the table to format.
- ✓ Click the “Design” tab in the “Table Tools” contextual tab in the Ribbon.
- ✓ Then scroll through the list of styles in the “Table Styles” button group.
- ✓ Then click a style to apply it to the table.



Self-Check -1	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page: each 3 marks

1. To insert three columns between columns D and E you would

- A. Select column D      C. Select columns E, F and G  
B. Select column E      D. Select columns D, E, and F.

Answer Sheet

**Note: Satisfactory rating - 3 points**

**Unsatisfactory - below 3 points**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score = \_\_\_\_\_

Rating: -----



<b>Information Sheet-2</b>	<b>Changing cells (insert and delete columns and rows) to meet information requirements</b>
----------------------------	---

### **2.1. Change a cell reference to another cell reference**

- Double-click the cell that contains the formula that you want to change. Excel highlights each cell or range of cells referenced by the formula with a different color.
- Do one of the following: ...
- Press Enter, or, for an array formula, press Ctrl+ Shift+ Enter.

### **2.2. Remove columns from a document**

- Place the insertion pointer anywhere in your document.
- Click the Page Layout tab.
- From the Page Setup group, choose Columns More Columns.
- In the Columns dialog box, choose one from the Presets area.
- From the Apply To drop-down list, select Whole Document.
- Click OK.

### **Add columns and rows**

- ✓ Click in a cell to the left or right of where you want to add a column.
- ✓ Under Table Tools, on the Layout tab, do one of the following:
- ✓ To add a column to the left of the cell, click Insert Left in the Rows and Columns group.
- ✓ To add a column to the right of the cell,
- ✓ Click Insert Right in the Rows and Columns group

### **• Remove contents from a cell**

Tip: You can delete the contents of a table row or column without deleting the table structure. To do this, select the row or column and then press the Delete key.

Right-click in a table cell, row, or column you want to delete. To delete one cell, choose Shift cells left or Shift cells up.



<b>Self-Check -2</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. 3 points each:

**I. Choose the best answer**

1. To add columns and rows what are the basic steps?
  - A. Click in a cell to the left or right of where you want to add a column
  - B. under Table Tools, on the Layout tab, do one of the following
  - C. adds a column to the left of the cell, click Insert Left in the Rows and Columns
  - D. all

**Note: Satisfactory rating - 6 points**

**Unsatisfactory - below 6 points**

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Short Answer Questions**

<b>Information Sheet-3</b>	Inserting appropriate images into document and customise as necessary
----------------------------	---

### 3.1. Introduction;-

#### Insert appropriate images

- Open the Word document that you want to insert a photo in.
- Click the place in your document where you want the picture to appear. ...
- Access the "Insert Picture" dialog box. ...
- Browse to the photo you want to insert.
- Click the file, then click "Insert."
- Modify the picture as necessary.

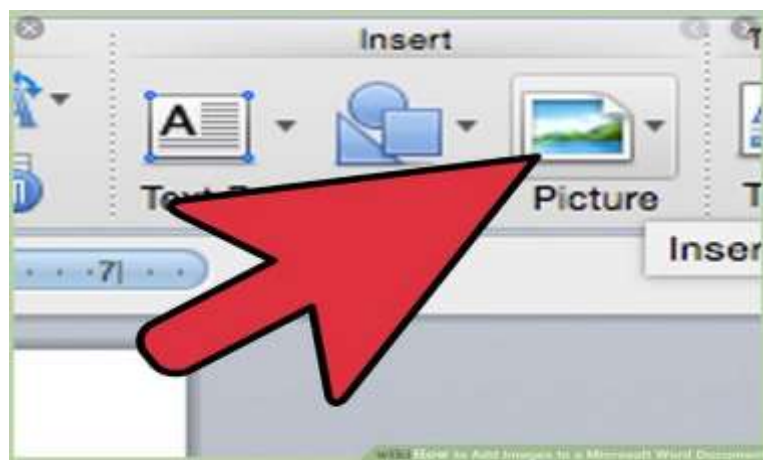
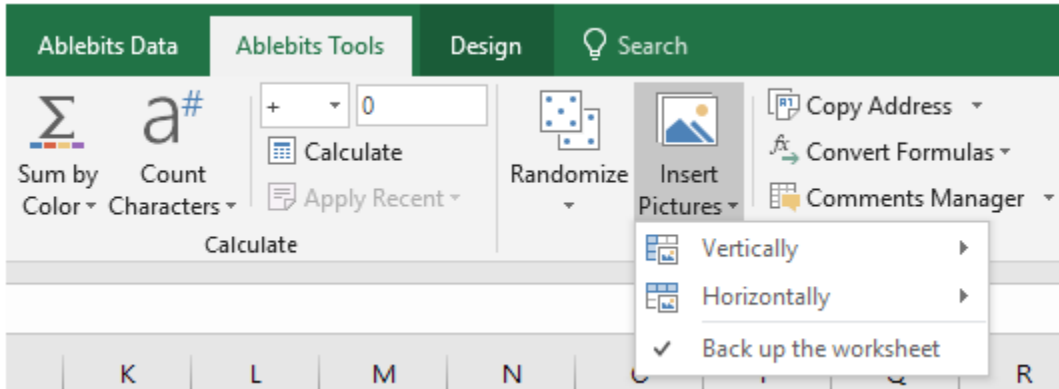


Figure 50: Insert appropriate images

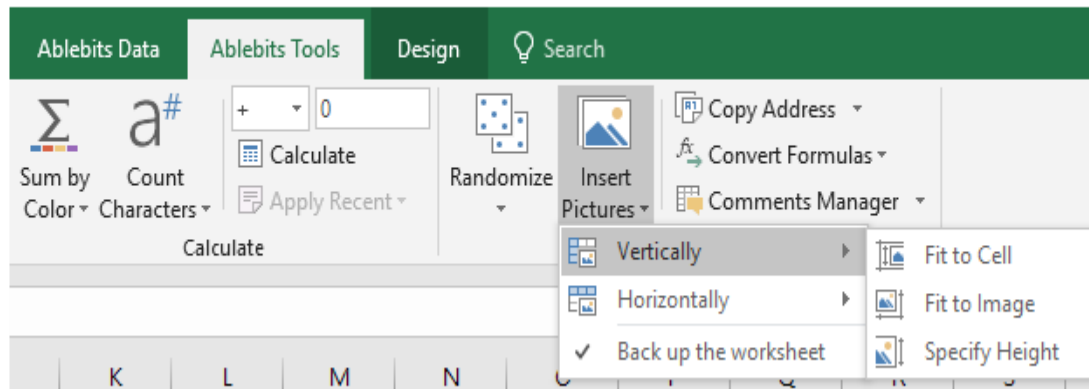
#### • How to insert pictures into Excel column

- ✓ Open your Excel file where you want to add images.
- ✓ Select the uppermost cell of the column for pictures.
- ✓ Find and click the Insert Pictures icon in the Utilities group on the Ableb its Tools tab:
- ✓ Select Vertically and choose one of three size options for your pictures



**Figure 51: Excel column**

Select *Vertically* and choose one of three size options for your pictures:



**Figure 52: Back up the worksheet**





<b>Self-Check -3,</b>	<b>Written Test</b>
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**Directions:** Answer the following questions .

**Say true or False each 3 point**

1. Inserting appropriate images into document and customizes are not necessary on the word document.

**Note:** Satisfactory rating - 5 points

**Unsatisfactory - below 5 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions



### 1.1. Positioning images

After you insert an image in Microsoft Word, you can reposition it in your document. You may want to overlap photos or set a specific text-wrapping pattern. An imported image in Word is assigned square text-wrapping by default, but there are other options you can use to get things looking just the way you want.

- **Open Layout Options**

- ✓ Select a picture.
- ✓ Select the Layout Options icon.
- ✓ Choose the layout options you want: To bring your picture in front of the text and set it so it stays at a certain spot on the page, select **In Front of Text** (under **With Text Wrapping**), and then select **Fix position on page**.

- **Resizing images**

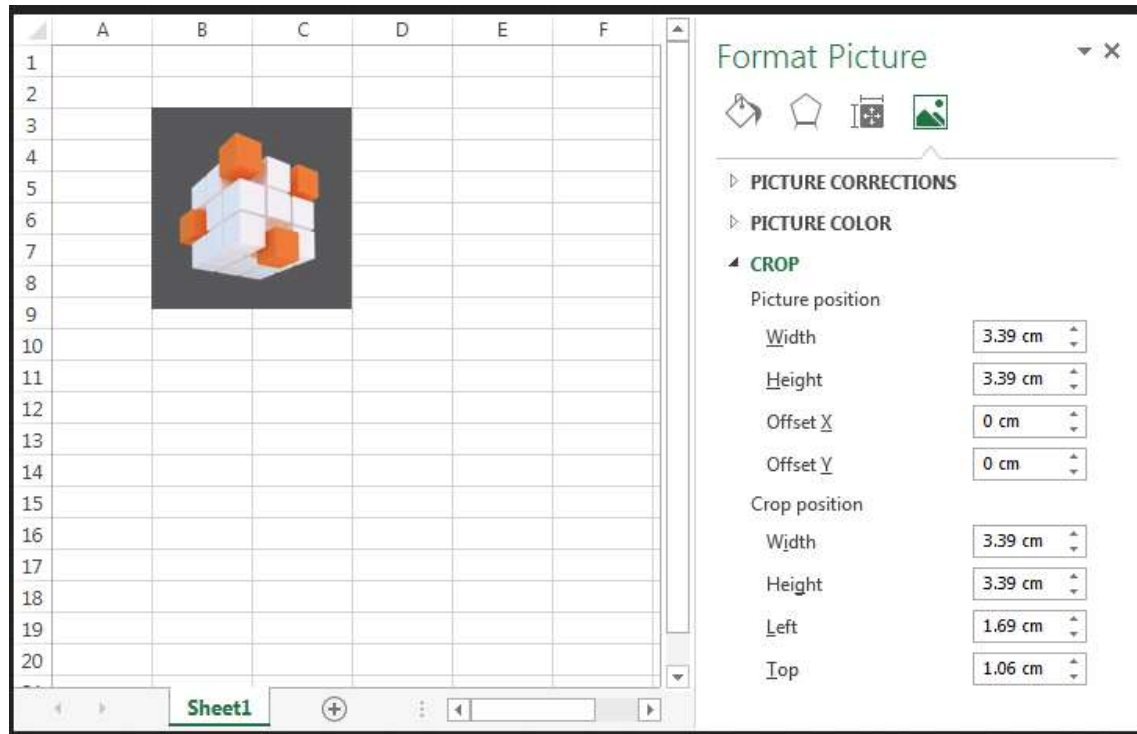
When we work with images and pictures in our documents, we do not always need the original size. One reason why we usually resize images is to lower their size. A 5MB picture will take an entire page in Word. We need to resize it in order to fit the document and do not disrupt the flow of reading. Today, we will learn how to resize a picture in Word so that it fits our needs.

- **Locking an image in word**

- ✓ Click on the **Picture Position** tab. Under both the **Horizontal** and **Vertical** selections,
- ✓ Select **Absolute Position**, and pick "Page" from the drop-down menu at the right.
- ✓ Also, click on the checkbox that says "Lock anchor."
- ✓ Now, your pictures won't move around the page.

- **Put images side by side in a word**

- ✓ Click and drag the first image to where you want it on the page.
- ✓ Release the mouse button.
- ✓ Click and drag the second image next to the first, where you want it to align.
- ✓ As the sides come close to each other, Word will automatically snap the second image into place next to the first.



**Figure 53: Format Picture**



<b>Self-Check -4</b>	<b>Written test</b>
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**Directions:** Answer all the questions listed below. 3 points each

**I. Say true or false**

1. An imported image in Word is assigned square text-wrapping by Default.

**Note: Satisfactory rating - 3 points**

**Unsatisfactory - below 3 points**

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Short Answer Questions**



<b>Information Sheet-5</b>	<b>Ensuring the naming and storing/ saving documents in appropriate directories or folders and the printing of documents to the required specifications</b>
----------------------------	---

## 5.1. Introduction:-

The main difference between Save and Save As is that Save helps to update the lastly preserved file with the latest content while Save As helps to store a new file or to store an existing file to a new location with the same name or a different name.

- **Create a new folder when saving your document by using the Save As dialog box**
  - ✓ With your document open, click File > Save As.
  - ✓ Under Save As, select where you want to create your new folder. ...
  - ✓ In the Save As dialog box that opens, click New Folder.
  - ✓ Type the name of your new folder, and press Enter. ...
  - ✓ Click Save.

## 5.2. Put documents in folder

- **The steps below should help you in creating a new folder and move the files into it.**
  - ✓ Go to the location (either a folder or the desktop) where you want to create a new folder.
  - ✓ Right-click a blank area on the desktop or in the folder window, point to 'New', and click 'Folder'

## 5.3. Saving files in the computer

On Windows computers, you can save files to your Desktop, which can give you quick access to files you may frequently use. To save to the Desktop choose the option to Save As and in the Save window click the Desktop icon on the left side of the window.



<b>Self-Check -5</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page: each 3 points

Choose the best answer

1. Which one is the short key to save a document  
A. Press CTRL+S   B. Press CTRL+V   C. Press CTRL+P   D. Shift+ F7
2. A feature of MS Word that saves the document automatically after certain interval is available on  
A. Save tab on Options dialog box  
B. Save As dialog box      C. Both of above      D. None of above

**Note: Satisfactory rating - 5 points**

**Unsatisfactory - below 5 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions



LAP Test	Practical Demonstration
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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

**Instructions:** Given necessary templates, tools and materials you are required to perform the following tasks within --- hour.

**Task-1** Insert standard table into document

- Changing Cells (insert and delete columns and rows) in to information
- Inserting appropriate images into document
- positioning and resizing Images
- Ensuring naming and storing/ saving documents and printing documents



# **Solar PV System Installation and Maintenance Level II Learning Guide-68**

<b>Unit of Competence:</b>	<b>Solar PV System Installation and Maintenance</b>
<b>Module Title:</b>	<b>Operate Application Software Packages</b>
<b>LG Code:</b>	<b>EIS PIM2 M12 Lo4-LG68</b>
<b>TTLM Code:</b>	<b>EIS PIM2 M12 1019v1</b>

## **LO4: Use appropriate Spreadsheet software**





<b>Instruction Sheet</b>	<b>Learning Guide -68</b>
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This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics –

- Selecting Spread sheet software to perform appropriate activity
- Identifying, and clarifying document purpose, audience and presentation requirements
- Opening the spread sheet application , creating spread sheet are and entering numbers, text and symbols into cells according to information requirements
- Entering simple formulas and functions using cell referencing where required and correct formulas when error messages occur
- Using a range of common tools are during spread sheet development
- Editing columns and rows within the spread sheet
- Using the auto-fill function to increment data where required
- Ensuring the naming and storing of documents in appropriate directories or folders and the printing of documents to the required specifications

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, **you will be able to :**

- Select Spread sheet software to perform appropriate activity
- Identify, and clarify document purpose, audience and presentation requirements
- Open the spread sheet application , create spread sheet are and entering numbers, text and symbols into cells according to information requirements
- Enter simple formulas and functions using cell referencing where required and correct formulas when error messages occur
- Use a range of common tools are during spread sheet development
- Edit columns and rows within the spread sheet
- Use the auto-fill function to increment data where required
- Ensure the naming and storing of documents in appropriate directories or folders and the printing of documents to the required specifications



### **Learning Instructions:-**

Read the specific objectives of this Learning Guide.

Follow the instructions described below 3 to 4.

Read the information written in the information Sheet 1, Sheet 2, Sheet 3, Sheet 4, in pages 21, 26, 29,32 respectively.

Accomplish the Self-check 1, Self-check 2, Self-check 3, Self-check 4, in pages 25, 28, 31,34 respectively

## Information Sheet-1

## Selecting Spread sheet software to perform appropriate activity

### 1.1. Introduction

A spreadsheet or worksheet is a file made of rows and columns that help sort data, arrange data easily, and calculate numerical data. What makes a spreadsheet software program unique is its ability to calculate values using mathematical formulas and the data in cells. A good example of how a spreadsheet may be utilized is creating an overview of your bank's balance.

Spreadsheet software is a software application capable of organizing, storing and analyzing data in tabular form. The application can provide digital simulation

#### Examples of spreadsheet programs

Today, Microsoft Excel is the most popular and widely used **spreadsheet** program, but there are also many alternatives. Below is a basic example of what a Microsoft Excel spreadsheet looks like, as well as all the important features of a spreadsheet highlighted?

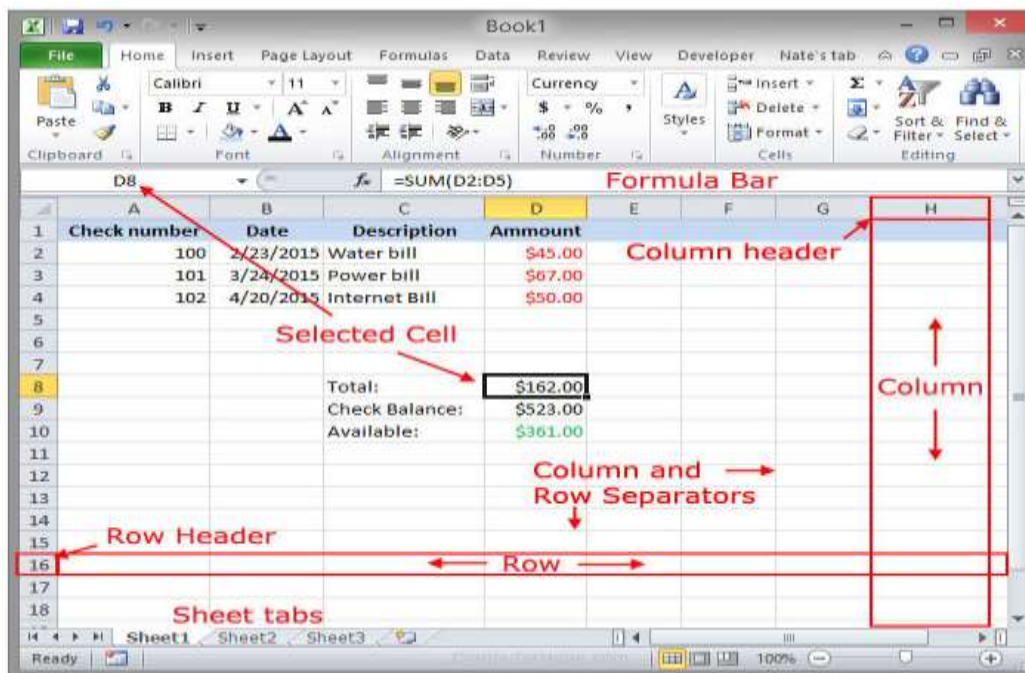


Figure 54:- spread sheet



In the above example, this spreadsheet is listing three different checks, the date, their description, and the value of each check. These values are then added together to get the total of \$162.00 in cell D6. That value is subtracted from the check balance to give an available \$361.00 in cell D8.

## **1.2. Difference between a workbook, worksheet, and spreadsheet**

Because the terms spreadsheet, workbook, and worksheet are so similar, there can be a lot of confusion when trying to understand their differences. When you open Microsoft Excel (a spreadsheet program), you're opening a workbook. A workbook can contain one or more different worksheets that can be accessed through the tabs at the bottom of the worksheet you're currently viewing. What's often most confusing is that a worksheet is synonymous with a spreadsheet. In other words, a spreadsheet and worksheet mean the same thing. However, most people only refer to the program as a spreadsheet program and the files it creates as spreadsheet files or worksheets.

### **• Examples of spreadsheet programs**

Today, Microsoft Excel is the most popular and widely used spreadsheet program, but there are also many alternatives. Below is a list of spreadsheet programs that can be used to create a spreadsheet.

- ✓ Google Sheets - (online and free).
- ✓ iWork Numbers - Apple Office Suite.
- ✓ LibreOffice -> Calc (free).
- ✓ Lotus 1-2-3 (discontinued).
- ✓ Lotus Symphony - Spreadsheets.
- ✓ Microsoft Excel.
- ✓ OpenOffice -> Calc (free).
- ✓ VisiCalc (discontinued).

## **Examples and uses of a spreadsheet**

Although spreadsheets are most often used with anything containing numbers, the uses of a spreadsheet are almost endless. Below are some other popular uses of spreadsheets.



- **Finance**

Spreadsheets are ideal for financial data, such as your checking account information, budgets, taxes, transactions, billing, invoices, receipts, forecasts, and any payment system.

- **Forms**

Form templates can be created to handle inventory, evaluations, performance reviews, quizzes, time sheets, patient information, and surveys.

- **School and grades**

Teachers can use spreadsheets to track students, calculate grades, and identify relevant data, such as high and low scores, missing tests, and students who are struggling.

- **Lists**

Managing a list in a spreadsheet is a great example of data that does not contain numbers, but still can be used in a spreadsheet. Great examples of spreadsheet lists include telephone, to-do, and grocery lists.

- **Sports**

Spreadsheets can keep track of your favorite player stats or stats on the whole team. With the collected data, you can also find averages, high scores, and statistical data. Spreadsheets can even be used to create tournament brackets.

- **What is an active worksheet?**

An **active worksheet** is the worksheet that is currently open. For example, in the Excel picture above, the sheet tabs at the bottom of the window show "Sheet1," "Sheet2," and "Sheet3," with *Sheet1* being the active worksheet. The active tab usually has a white background behind the tab name

- **What is the length limit of a worksheet name?**

Not to be confused with the file name, in Microsoft Excel, there is a 31 character limit for each worksheet name.

- **How are rows and columns labeled?**

In all spreadsheet programs, including Microsoft Excel, rows are labeled using numbers (e.g., 1 to 1,048,576). All columns are labeled with letters from A to Z, then with two letters. For example, after the letter Z, the next column is AA, AB, AC, ..., AZ and then incrementing to BA, BB, BC, etc., to the last column XFD.

When working with a cell, you combine the column with the row. For example, the very first cell is in column A and on row 1, so the cell is labeled as A1. How many sheets, rows, and columns can a spreadsheet have?

- **Why not use a word processor instead of a spreadsheet?**

While it may be true that some of the things mentioned above could be done in a word processor, spreadsheets have a huge advantage over word processors when it comes



to numbers. It would be impossible to calculate multiple numbers in a word processor and have the value of the calculation immediately appear. Spreadsheets are also much more dynamic with the data and can hide, show, and sort information to make processing lots of information easier.

**Most popular spreadsheet software:-**

- ✓ Microsoft Excel is the quintessential spreadsheet application
- ✓ Google Sheets gives Excel a run for its money in terms of name recognition. ...
- ✓ Quip is a productivity tool from Sales force, a company best known for its CRM software. ...
- ✓ Ether Calc is a web-based spreadsheet tool that doesn't even require you to sign up for an account.

• **Notable current spreadsheet software:**

- ✓ Apache Open Office Calc.
- ✓ LibreOffice Calc.
- ✓ Calligra Sheets (formerly KCalc)
- ✓ Corel Quattro Pro (WordPerfect Office)
- ✓ Kingsoft Spreadsheets.
- ✓ Neo Office.
- ✓ Numbers is Apple Inc.'s spreadsheet software, part of iWork.
- ✓ PlanMaker (SoftMaker Office)

**Self-Check -1****Written Test**

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page: each 3 points.

**Choose the best answer from the given alternative**

1. Which one is odd from the following?
  - A. Prevent problems regarding warranty claims
  - B. Prevent expensive repair works from happening
  - C. Helps you create specialized maintenance programs
  - D. None
2. \_\_\_\_ is any equipment used for holding or buffering materials over a period of time
  - A. Store    B. Equipment                      C. Materials      Boundary

**Note:** Satisfactory rating 1.5 and above points Unsatisfactory - below 1 points

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Short Answer Questions**



<b>Information Sheet-2</b>	Identifying, and clarifying document purpose, audience and presentation requirements
----------------------------	--

## 2.1. Definition of clarifying document

To create a spread sheet, you must either have a spread sheet program installed on your computer capable of creating a spread sheet or use an online service capable of creating a spread sheet. to use Microsoft Excel to create a spread sheet, follow the steps below.

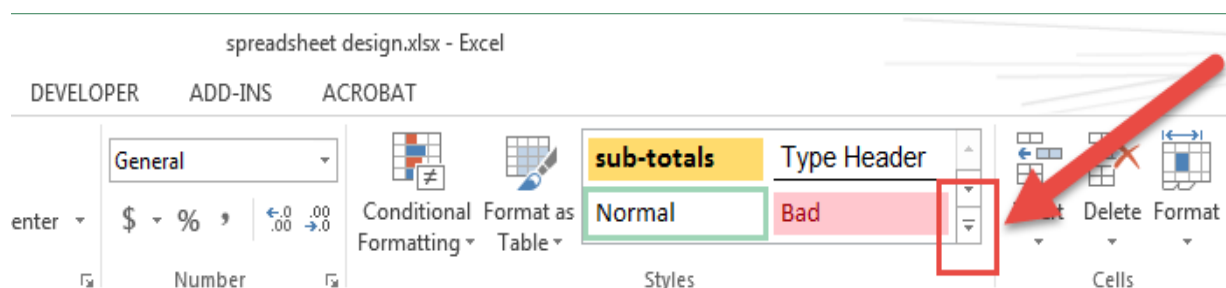
### • Open Excel in Windows

- ✓ Open Microsoft Excel. If you're not sure how to open or find Excel, skip to the finding Microsoft Excel section.
- ✓ Once Excel is open, any new information and formulas can be entered.
- ✓ Once complete or while working on the spreadsheet, you can Save your work through the File tab to the destination of your choice.

### • How to find Microsoft Excel in Windows

- ✓ In Windows, click **Start**.
- ✓ In the search box, type **excel**. If Excel is installed on the computer, it will be shown in the search results. For example, you may see Microsoft Excel 2010, Microsoft Excel 2013, or Microsoft Excel 365.

Once you've defined the look of your spreadsheet, you can save the settings as a cell style. Simply highlight the cells with the formatting you want to save. In the "Home" ribbon, click the "More" arrow at the bottom of the style gallery.



**Figure 55:- Spread sheet design**





Click the “New Cell Style” button at the bottom of the Custom dialog to open the Style dialog. Give your new style a name and select the properties you want to include in the style settings.

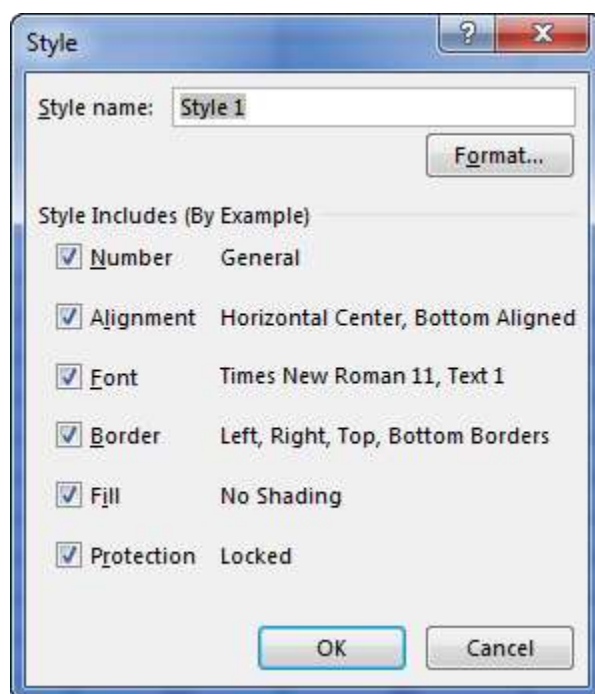


Figure 56: Style



Self-Check -2	Written Test
---------------	--------------

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page: each 3 points

**I. Say true or false**

1. To create a spread sheet, you must either have a spread sheet program installed on your computer capable of creating a spread sheet.

**Note:** Satisfactory rating – 3      Unsatisfactory - below 3 point

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Short Answer Questions**

Information Sheet-3	Opening the spread sheet application , creating spread sheet are and entering numbers, text and symbols into cells according to information requirements
---------------------	--

### 3.1. Definition of opening spread sheet

To create a spreadsheet, you must either have a spreadsheet program installed on your computer capable of creating a spreadsheet or use an online service capable of creating a spreadsheet.

In Microsoft Excel, you can add one or more worksheets to a workbook file. You can also rename, copy, move, and delete a worksheet. To perform any of these actions, follow the steps on this page.

- **How to add a new worksheet**

To add a new worksheet to your Excel file, follow the steps below for the version of Excel on your computer.



**Figure 57: Sheet-1**

- **Excel 2013 and later**

- ✓ At the bottom of the Excel window, to the right of the last worksheet listed, click on the + symbol.
- ✓ A new worksheet will be created, with a default name of "Sheet" plus a number. The number used is one more than the number of existing worksheets. For example, if there are three worksheets in the Excel file, the new worksheet will be named "Sheet4". Tip: You can also use the keyboard shortcut **Alt+Shift+F1** to create a new worksheet tab in Excel.

- **Excel 2010 and earlier**

- ✓ At the bottom of the Excel window, to the right of the last worksheet listed, click the small tab with a folder-like icon and star at the upper-left corner.
- ✓ A new worksheet will be created, with a default name of "Sheet" plus a number. The number used is one more than the number of existing worksheets. For example, if there are three worksheets in the Excel file, the new worksheet will be named "Sheet4".

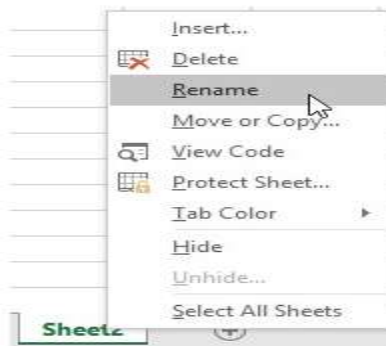


**Figure 58: Sheet-4**

### **3.2. How to rename a worksheet**

To rename a worksheet in an Excel file, follow the steps below.

- ✓ At the bottom of the Excel window, right-click on the worksheet tab you want to rename.
- ✓ Click the **Rename** option.
- ✓ Type in the new name for the worksheet and press Enter.

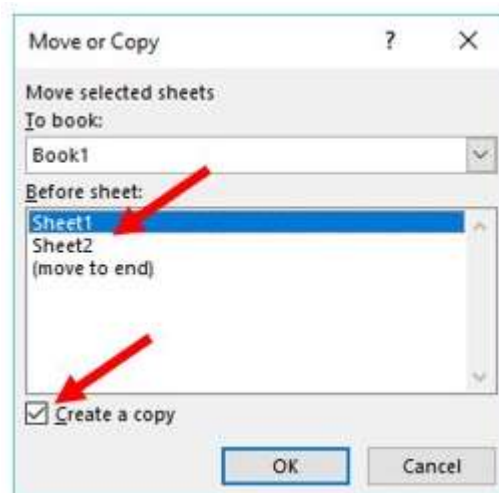


**Figure 59: character limit for a worksheet name**

- **How to copy a worksheet**

To copy a worksheet, copying all contents of that worksheet to a new worksheet, follow the steps below.

- ✓ At the bottom of the Excel window, right-click on the worksheet tab you want to copy.
- ✓ Click the Move or Copy option.
- ✓ In the *Move or Copy* window, in the Before sheet section, select the worksheet where you want to place the copied worksheet.
- ✓ Check the box for the Create a copy option, then click OK.



- **Enter text or a number in a cell**

- ✓ On the worksheet, click a cell.



- ✓ Type the numbers or text that you want to enter, and then press ENTER or TAB.  
To enter data on a new line within a cell, enter a line break by pressing ALT+ENTER.

A5				
	A	B	C	
1	Numbers			
2	3			
3	6			
4	9			
5				
6				

# Insert Image in Excel Cell

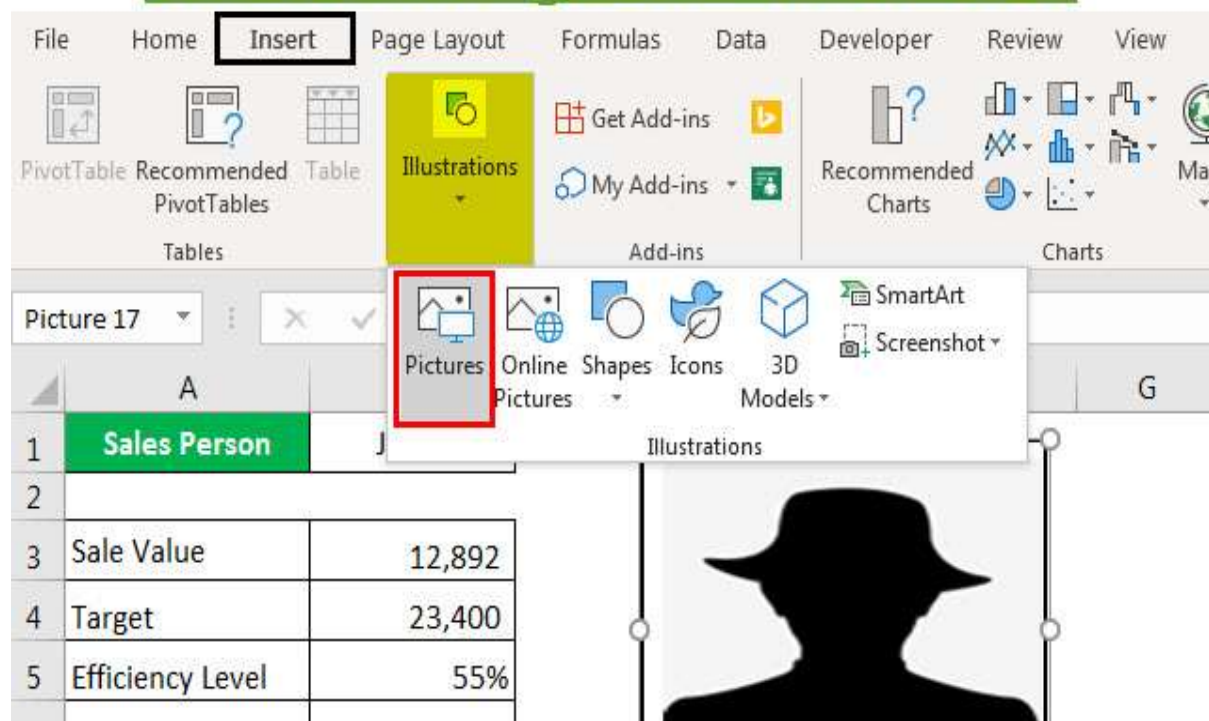


Figure 60: Cell



<b>Self-Check -3</b>	<b>Written Test</b>
----------------------	---------------------

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page: each 3 points.

**I. Say true or false**

1. Copying all contents of that worksheet to a new worksheet called tabbing.

**Note: Satisfactory rating – 6 points**

**Unsatisfactory - below 6 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

**Short Answer Questions**





<b>Information Sheet-4</b>	<b>Entering simple formulas and functions using cell referencing where required and correct formulas when error messages occur</b>
----------------------------	--

### 1.1. Simple insertion:

- Typing a formula inside the cell  
Typing a formula in a cell or the formula bar is the most straightforward method of inserting basic Excel formulas. The process usually starts by typing an equal sign, followed by the name of an Excel function.
- SUM

The SUM function is the first must-know formula in Excel. It usually aggregates values from a selection of columns or rows from your selected range.

- ✓ =SUM(number1, [number2], ...)
- ✓ Example:
- ✓ =SUM(B2:G2) – A simple selection that sums the values of a row.
- ✓ =SUM(A2:A8) – A simple selection that sums the values of a column.
- ✓ =SUM(A2:A7, A9, A12:A15) – A sophisticated collection that sums values from range A2 to A7, skips A8, adds A9, jumps A10 and A11, then finally adds from A12 to A15.
- ✓ =SUM(A2:A8)/20 – Shows you can also turn your function into a formula.

- **AVERAGE**

The AVERAGE function should remind you of simple averages of data such as the average number of shareholders in a given shareholding pool.

=AVERAGE(number1, [number2], ...)

Example:

=AVERAGE(A1:A10) – Shows a simple average, also similar to (SUM(A1: A10)/9)**This**

- **Basic Excel Formula is used to get the sum of the value in one or more cells or range.**

- ✓ A formula of Sum **Function:-**



- ✓ =SUM(A1:A5)
- ✓ =SUM(1, 3,5,9)
- ✓ A **Formula** of COUNT **Function**:
- ✓ =COUNT(A1:A5)
- ✓ A **Formula** of COUNTA **Function**:
- ✓ =COUNTA(A1:A5)
- ✓ A **Formula** of COUNTBLANK **Function**:

### Overview of formulas in Excel

- ✓ Select a cell.
- ✓ Type the equal sign =. Note: Formulas in Excel always begin with the equal sign.
- ✓ Select a cell or type its address in the selected cell.
- ✓ Enter an operator. For example, – for subtraction.
- ✓ Select the next cell, or type its address in the selected cell.
- ✓ Press Enter.



Self-Check -4	Written Test
---------------	--------------

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page: each 3 points.

**Say true or false**

1. Basic Excel Formula is used to get the sum of the value in one or more cells or range.

**Note: Satisfactory rating – 6 points**

**Unsatisfactory - below 6 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score = \_\_\_\_\_

**Short Answer Questions**

Rating: \_\_\_\_\_



## Information Sheet-5

Using a range of common tools are during spread sheet development

### 5.1. Definition of tools

- Microsoft Office Excel is one of the most important tools to perform the calculation, analysis, and visualization of data and information.

- ✓ V lookup()
- ✓ Pie Chart
- ✓ Mixed or Combination Type Charts
- ✓ Data Validation
- ✓ IFERROR Function
- ✓ Remove Duplicates
- ✓ Conditional Formatting

- **Tools used in Microsoft Excel**

Below is a list of spreadsheet programs that can be used to create a spreadsheet.

- ✓ Google Sheets - (online and free)
- ✓ iWork Numbers - Apple Office Suite
- ✓ Libre Office -> Calc (free)
- ✓ Lotus 1-2-3 (discontinued)
- ✓ Lotus Symphony - Spreadsheets
- ✓ Microsoft Excel
- ✓ Open Office -> Calc (free)
- ✓ VisiCalc (discontinued)

- **Top 10 Excel Features – Most Useful Excel Features**

- ✓ PivotTables
- ✓ Filtering and sorting data
- ✓ Excel Tables
- ✓ Conditional formatting
- ✓ Lookup Excel functions
- ✓ Array Formulas
- ✓ Data Analysis Excel Tools
- ✓ Naming fields / Name Manager
- ✓ VBA macros and recording macros
- ✓ Microsoft Power Add-In's



<b>Self-Check -5</b>	<b>Written Test</b>
----------------------	---------------------

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page: each 3 points.

**Say true or false**

1. Microsoft Office Excel is one of the most important tools to perform the calculation.

**Note: Satisfactory rating 3 and above points Unsatisfactory - below 3 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = _____
Rating: _____

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Short Answer Questions**



## Information Sheet-6

## Editing columns and rows within the spread sheet

### 6.1. Definition of editing columns

Not everyone enters data correctly the first time. To edit data you entered in a cell, do one of the following:

- **To start working in Edit mode, do one of the following:**
  - ✓ Double-click the cell that contains the data that you want to edit. ...
  - ✓ Click the cell that contains the data that you want to edit, and then click anywhere in the formula bar. ...
  - ✓ Click the cell that contains the data that you want to edit, and then press F2.

### Use Find to edit selected cells in an Excel worksheet all at once

- ✓ Select the worksheet containing the text you want to replace.
- ✓ Press [Ctrl]F.
- ✓ In the Find What text box, type 2005.
- ✓ Click the Find All button.
- ✓ Click on one of the entries listed.
- ✓ Press [Ctrl]A.
- ✓ Click the Replace tab.
- ✓ Enter 2005 in the Replace With box.

### 6.2. The short key to edit key in excel is

Edit the active cell. This shortcut enters cell edit mode with the cursor at the end of the last line of text in the cell. If you want the cursor to move to the formula bar, see below. Once you are editing a cell, you can use the F2 / Ctrl+U again to toggle through available edit modes Changing the size of rows and columns with the mouse

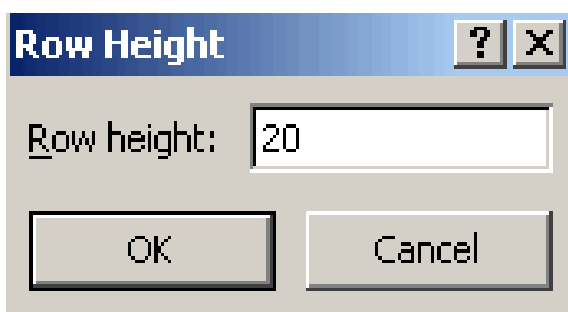
Using the mouse can be a quick way to modify the sizes of rows and columns. To change the height of a row or the width of a column, follow these steps:

- Move the mouse pointer over the bottom line of a row heading, such as the 2 or 18 heading. (Or move the mouse pointer over the right line of the column heading, such as A or D.) The mouse pointer turns into a two-way pointing arrow.
- Hold down the left mouse button and drag (move) the mouse. Excel resizes your row or column.
- Release the left mouse button when you are happy with the size of your row or column.

### 6.3. Typing the size of rows and columns

If you need to resize a row or column to a precise value, it is easier to type a specific value into the Row Height or Column Width dialog box instead. To type a value into a Row Height or Column Width dialog box, follow these steps:

- ✓ Click the Home tab and then click the row or column heading that you want to resize. Excel highlights your entire row or column.
- ✓ Click the Format icon that appears in the Cells group. A pull-down menu appears and then click Height (if you selected a row) or Width (if you selected a column). The Row Height or Column Width dialog box appears.



**Figure 61: Enter a height for the row.**

- **Adding and deleting rows and columns**

- ✓ After you type in labels, numbers, and formulas, you may suddenly realize that you need to add or delete extra rows or columns. To add a row or column, follow these steps:
- ✓ Click the Home tab and then click the row or column heading where you want to add another row or column.
- ✓ Click the Insert icon in the Cells group. Inserting a row adds a new row above the selected row. Inserting a column adds a new column to the left of the selected column.

To delete a row or column, follow these steps:

- ✓ Click the Home tab and then click the row or column heading that you want to delete.
- ✓ Click the Delete icon in the Cells group.



- ✓ Deleting a row or column deletes any data stored in that row or column.

- **Adding Sheets**

For greater flexibility, Excel lets you create individual spreadsheets that you can save in a single workbook (file). When you load Excel, it automatically provides you with three sheets, but you can add more if you need them. To add a new sheet, choose one of the following:

- ✓ Click the Insert Worksheet icon.
- ✓ Click the Home tab, click the downward-pointing arrow next to the Insert icon in the Cells group, and then choose Insert Sheet.

	A	B	C	D	E
2					
3	<b>Yearly Expenses</b>				
4	Name	Mar	Apr	May	June
5	Neil	400.2	500.6	450.5	200.5
6	John	400.5	350.5	500.5	500.5
7	Fulton	300.1	450.6	500.4	450.5
8	Mike	350.5	400.7	450.6	300.5
9	Rhan A.	250.1	250.9	300.6	650.6
10	F. Naik	200.1	300.5	200.7	600.6
11	Total	1901.5	2253.8	2403.3	2703.2
12					
13					

Sheet Tabs: Sheet1, Sheet2, Sheet3

Insert Worksheet Icon: (circled icon with a plus sign)

**Figure 62: Excel displays the names of individual sheets as tabs.**





Self-Check -6	Written Test
---------------	--------------

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page : Each 3 points  
**I Say true or false**

1. Deleting a row or column deletes any data stored in that row or column.

**Note:** Satisfactory rating – 5      Unsatisfactory - below 3 point

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Short Answer Questions**

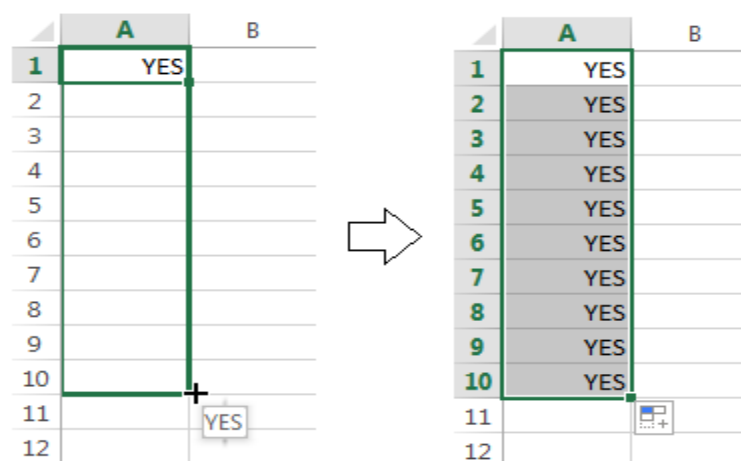
Information Sheet-7	Using the auto-fill function to increment data where required
---------------------	---

### 7.1. Definition of auto-fill function

When you are pressed for time, every single minute counts. So you need to know every way to automate daily spreadsheet tasks. AutoFill in Excel is a popular feature, and I'm sure most of you already use it. However, it may be a new fact for you that it's not only about copying values down a column or getting a series of numbers or dates. It's also about creating custom lists, double-clicking to populate a large range and much more. If you know where the fill handle is located, it's high time to find out all the benefits it stores.

- **How to Use AutoFill in Microsoft Excel**

- ✓ Begin a new spreadsheet. Add initial data that is needed.
- ✓ Select the cell that you wish to AutoFill. Move the cursor to the bottom right corner of the cell. It will turn into a solid cross. ...
- ✓ Notice how Excel fills the series of months for you automatically. Drag the cursor across the cells to as many as you need.



**Figure 63: AutoFill**



Self-Check -7	Written Test
---------------	--------------

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page: 3 points each

**Say true or false**

1. Both formatting and deleting have the same meaning.

**Note: Satisfactory rating – 3 points**

**Unsatisfactory - below 3 points**

You can ask you teacher for the copy of the correct answers.

### Answer Sheet

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions

Score = \_\_\_\_\_

Rating: \_\_\_\_\_



## Information Sheet-8

**Ensuring the naming and storing of documents in appropriate directories or folders and the printing of documents to the required specifications**

### 8.1. Naming a Workbook

- Open the workbooks that you want to **save** in a **workspace**.
- Arrange the workbook windows as you want them to appear when you open the **workspace**, changing the size of each workbook window as needed.
- On the View tab, in the Window group, click **Save Workspace**.
- In the File name box, type a name for the **workspace** file.

### 8.2. Renaming a Workbook

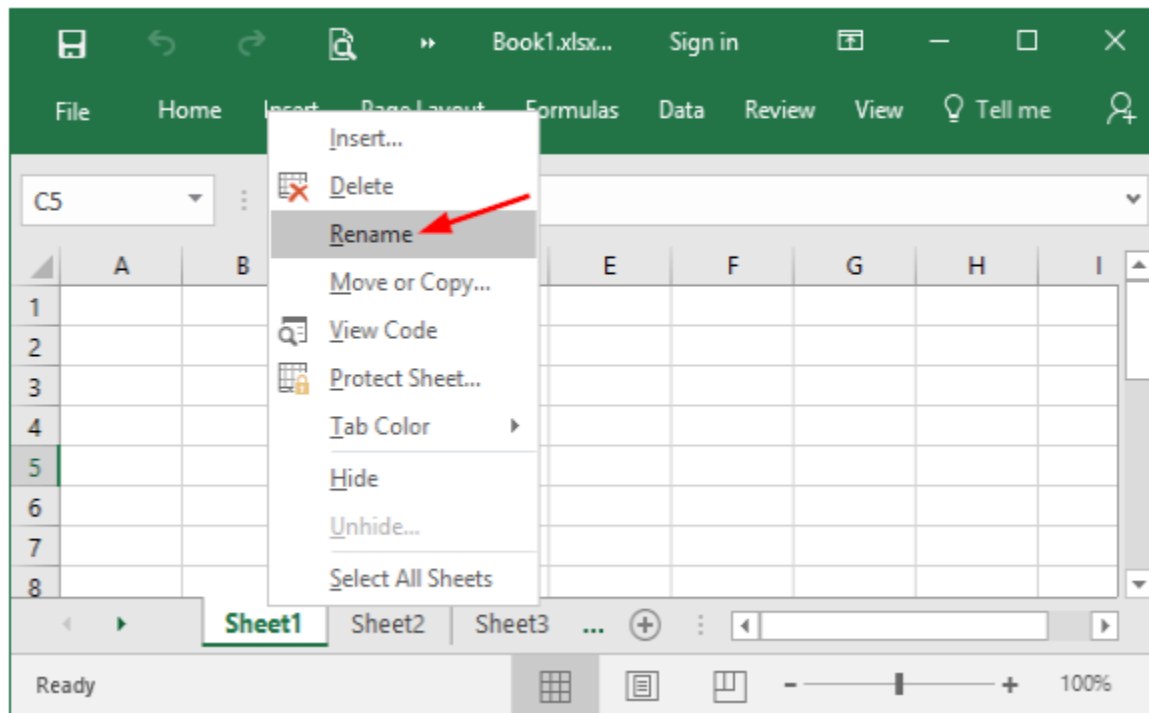
Make sure the workbook you want to rename is not loaded into Excel. ... Choose Open from the File menu or click the Open tool on the In the list of files contained in the dialog box, right-click on the one you want to rename

Choose Rename from the Context menu once the document name is changed, press Enter. How can I rename multiple worksheets at one time using VBA code? In Excel, you can assign a unique name to each sheet tab in your workbook so you can easily find the tab you want. In this tutorial we'll show you 4 simple methods to rename one or multiple worksheet tabs in Excel.

**Note:** The name of a worksheet tab can have a maximum of 30 characters only.

**Option 1:** Rename worksheet tab with the “Rename” shortcut menu

Right-click on a specific tab you want to rename. You can see many options coming up when you right click. From there, choose the Rename shortcut menu.

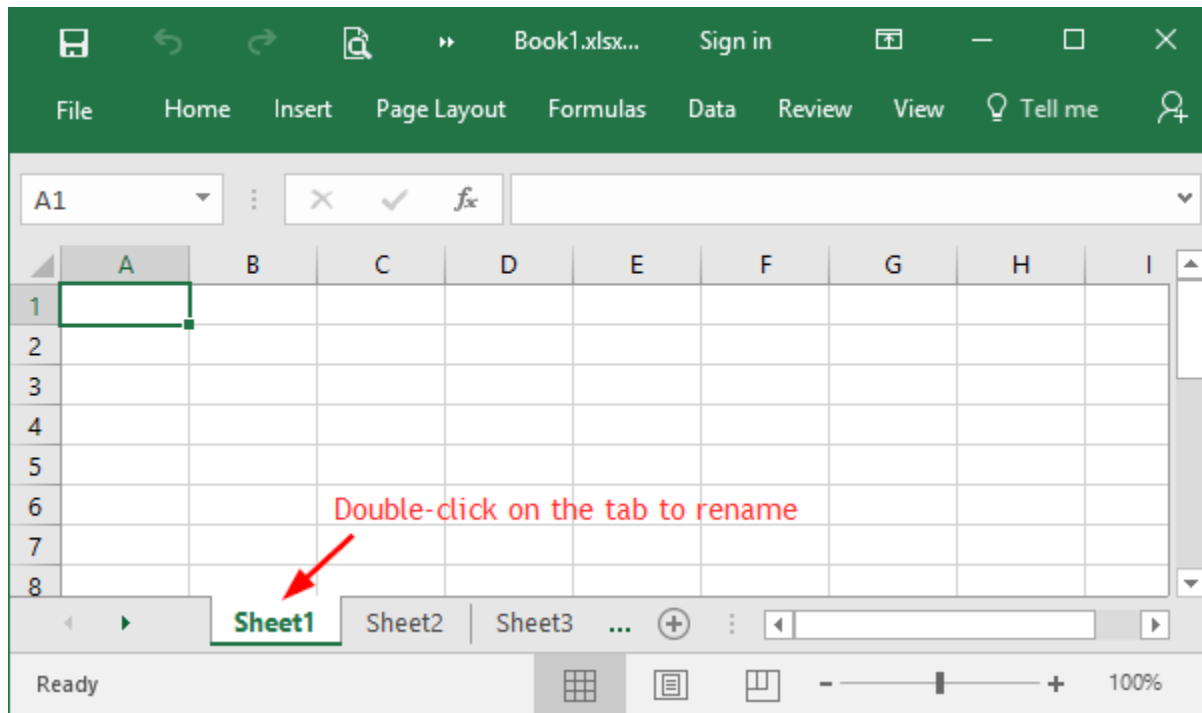


**Figure 64: Rename worksheet**

Type a name that you want to give to the worksheet tab and press Enter. Repeat this procedure for each tab you want to rename.

### **Option 2: Rename worksheet tab by double-clicking the tab**

Another way to rename a worksheet tab in Excel is by double-clicking on the sheet tab. When you double-click on the worksheet tab at the bottom, the tab name (e.g. Sheet1) is highlighted. After that, you just have to type the new name.



**Figure 65: Rename worksheet**

### Option 3: Rename worksheet tab using keyboard shortcut

Select the worksheet tab that you want to rename, and then press the keyboard shortcut **Alt + O + H + R** (Just press these 4 keys on the keyboard one by one in the sequence), type a name and press Enter.

<b>Self-Check -8</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

**Say true or false**

1. The name of a worksheet tab can have a maximum of 30 characters only.

**Note: Satisfactory rating – 3 points**

**Unsatisfactory - below 3 points**

You can ask your teacher for the copy of the correct answers.

**Answer Sheet**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

**Short Answer Questions**

LAP Test	Practical demonstration
----------	-------------------------

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

**Instructions:** Given necessary templates, tools and materials you are required to perform the following tasks within --- hour.



**Task-1Select** appropriate Spread sheet software

**Task-1Select** Identifying document purpose, audience and presentation

**Task-1Select** Opening spread sheet application

**Task-1Select** Entering Simple formulas and functions using cell reference

**Task-1Select** Using range of common tools during spread sheet development

**Task-1Select** Editing Columns and rows within the spread sheet

**Task-1Select** Using auto-fill function to increment data

**Task-1Select** Ensuring naming and storing documents in appropriate folders

## REFERENCE BOOKS

1. Mount Allison University, 2011, Microsoft Excel Level 1, 62 York St, Sackville, Mount Allison University ,
2. Corporate Finance Institute Software Excel , Corporate Finance Institute  
[learning@corporatefinanceinstitute.com](mailto:learning@corporatefinanceinstitute.com)





# **Solar PV System Installation and Maintenance Level II Learning Guide- 69**

<b>Unit of Competence: -</b>	<b>Solar PV System Installation and Maintenance</b>
<b>Module Title: -</b>	<b>Operate Application Software Packages</b>
<b>LG Code:</b>	<b>EIS PIM2 M12 Lo-LG69</b>
<b>TTLM Code:</b>	<b>EIS PIM2 M12 1019v1</b>

**LO5: Incorporate object and chart in spread sheet**



<b>Instruction Sheet</b>	<b>Learning Guide # 60</b>
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**This learning guide is developed to provide you the necessary information regarding the following content coverage and topics**

- Importing an object into an active spread sheet
- Manipulating Import object using formatting features
- Creating chart using selected data in the spread sheet
- Displaying selected data in a different chart
- Modifying chart using formatting features

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, **you will be able to –**

- Import an object into an active spread sheet
- Manipulate Import object using formatting features
- Create chart using selected data in the spread sheet
- Display selected data in a different chart
- Modify chart using formatting features



### **Learning Instructions:-**

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 4.
3. Read the information written in the information Sheet 1, Sheet 2, Sheet 3, Sheet 4 , Sheet 5, in pages 3, 7,10,17 and 20 respectively.
4. Accomplish the Self-check 1, Self-check 2, Self-check 3, Self-check 4, Self-check 5, in pages 6,9,16,19, and 22 respectively
5. If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet 1, Operation Sheet 2 and Operation Sheet 3 ”**in page ---**.
6. Do the “LAP test” **in page – ---**



## Information Sheet-1

## Importing an object into an active spread sheet

### 1.1. Introduction:-

#### • Data Required for Import

When preparing your data for import, keep in mind that certain fields are required, as follows: for an Account-based List, you must have at least one data field that you can import as the Account Name field. For a Contact-based List, you must have at least one data field that you can import as the Contact Name field. Be sure to include an email address for any Contacts you import. File Size and Format.

Currently, you can import CSV files containing up to 50,000 rows. Data you want to import must be in CSV format. Sometimes, when downloading to CSV you may run into some issues. For example, if any cells in your data file start with the symbol, you may get a #NAME? in those cells. To fix this, remove the symbol from the cells displaying this error.

- ✓ Make sure your CSV files contain no empty column headers.
- ✓ Make sure the first row in your CSV contains your field names.
- ✓ Multiple Contacts in an Account List

You can import multiple Contacts per Account List object (lead, opportunity, etc., shown here as Lead in the first column), but you must format them in a specific way. The name of the company must be duplicated for each List object, and the objects must appear one after the other, as shown here: An

Lead	Primary Contact	Primary Contact Email	Twitter	Eye Color	Sort	Company Location
SalesforceIQ	Richard	<a href="mailto:richard@salesforceiq.com">richard@salesforceiq.com</a>	richard	Hazel	1	Palo Alto
SalesforceIQ	Darius	<a href="mailto:darius@salesforceiq.com">darius@salesforceiq.com</a>	darius	Brown	2	Palo Alto
SalesforceIQ	Kunal	<a href="mailto:kunal@salesforceiq.com">kunal@salesforceiq.com</a>	kunal	Blue	2	Palo Alto

In this example, certain columns (Primary Contact, Primary Contact Email, Phone) contain Contact-specific data, while others (Lead, Company Location) contain Account-specific data. The import tool uses the first row of the CSV file to create the company Account

### 1.2. An object in Excel spreadsheet

Use Object Linking and Embedding (OLE) to include content from other programs, such as Word or Excel.

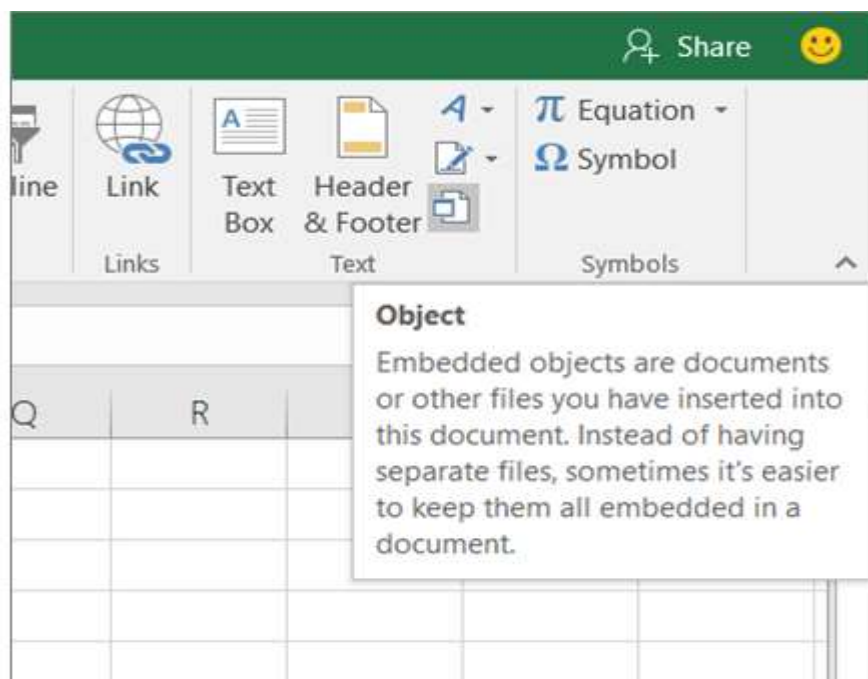
OLE is supported by many different programs, and OLE is used to make content that is created in one program available in another program. For example, you can insert an Office Word document in an Office Excel workbook. To see what types of content that

you can insert, click Object in the Text group on the Insert tab. Only programs that are installed on your computer and that support OLE objects appear in the Object type box.

- **Embed an object in a worksheet**

Click inside the cell of the spreadsheet where you want to insert the object.

On the Insert tab, in the Text group, click Object .



**Figure 66: Object**

### **1.3. The spreadsheet**

If you want to insert an icon into the spreadsheet instead of show the contents of the file, select the Display as icon check box. If you don't select any check boxes, Excel shows the first page of the file. In both cases, the complete file opens with a double click. Click OK.

After you add the icon or file, you can drag and drop it anywhere on the worksheet. You can also resize the icon or file by using the resizing handles. To find the handles, click the file or icon one time.

- **Insert a link to a file**

You might want to just add a link to the object rather than fully embedding it. You can do that if your workbook and the object you want to add are both stored on a SharePoint site, a shared network drive, or a similar location, and if the location



of the files will remain the same. This is handy if the linked object undergoes changes because the link always opens the most up-to-date document.

If you move the linked file to another location, the link won't work anymore.

- ✓ Click inside the cell of the spreadsheet where you want to insert the object.
- ✓ On the Insert tab, in the Text group, click Object .
- ✓ Click the Create from File tab
- ✓ Click Browse, and then select the file you want to link.
- ✓ Select the Link to file check box, and click OK.
- ✓ Create a new object from inside Excel

You can create an entirely new object based on another program without leaving your workbook. For example, if you want to add a more detailed explanation to your chart or table, you can create an embedded document, such as a Word or PowerPoint file, in Excel. You can either set your object to be displayed right in a worksheet or add an icon that opens the file.

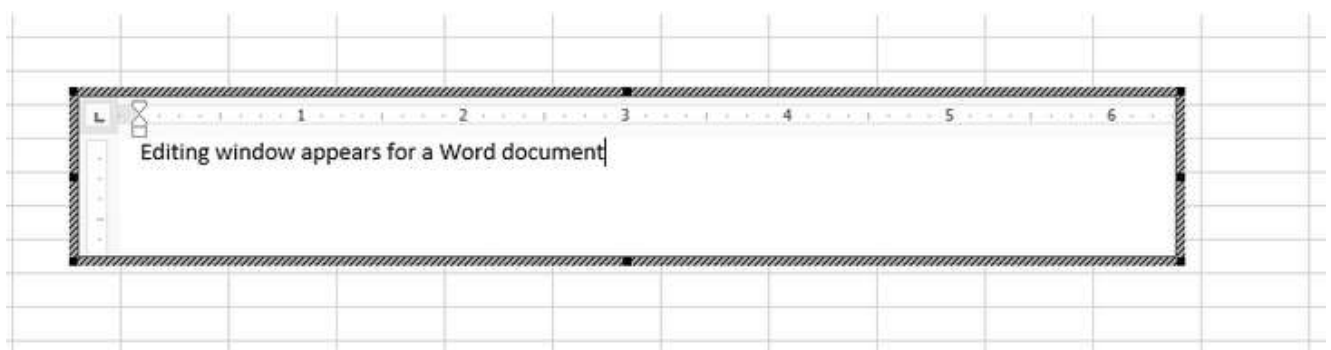
- ✓ Click inside the cell of the spreadsheet where you want to insert the object.
- ✓ On the Insert tab, in the Text group, click Object

On the Create New tab, select the type of object you want to insert from the list presented. If you want to insert an icon into the spreadsheet instead of the object itself, select the Display as icon check box.

Click OK. Depending on the type of file you are inserting, either a new program window opens or an editing window appears within Excel.

#### **1.4. Create the new object you want to insert.**

When you're done, if Excel opened a new program window in which you created the object, you can work directly within it.



**Figure 67: create new object**



When you're done with your work in the window, you can do other tasks without saving the embedded object. When you close the workbook your new objects will be saved automatically.

Note: After you add the object, you can drag and drop it anywhere on your Excel worksheet. You can also resize the object by using the resizing handles. To find the handles, click the object one time.

Self-Check 1	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:(2point each)

**Choose the best answer**

1.-----is supported by many different programs

A. Object Linking and Embedding    B. Object Linking    C. Linking and Embedding

**Note: Satisfactory rating - 4 and 6 points      Unsatisfactory - below 4 and 2**

**points Answer Sheet**



Name: \_\_\_\_\_

Date: \_\_\_\_\_

Operation Sheet -1	Importing an objective in to active spread sheet
--------------------	--

**Steps to Importing an objective in to active spread sheet**

**Step-1** on the Tasks panel tab of the Data Exchange work area, select Run Spreadsheet Data Loader

**Step-2** On the Run Spreadsheet Data Loader page, the saved search runs automatically. If the template that you want to use doesn't appear, then click Show Filters, enter search terms for the template, and click Search.

**Step-3** in the Opening GenericHdlSpreadsheet.xlsx dialog box, select Save File and click OK

**Step-4** In the Enter name of file to save to dialog box, select a location and save the spreadsheet.

Information Sheet-2	Manipulating Import object using formatting features
---------------------	--





**2.1. Definition :-Manipulations** Import object using formatting features that is an object of document of

- Familiarize you with what a spreadsheet is, how it works, and what its capabilities are;
- Using the concepts introduced earlier in the course, apply certain mathematical manipulations to data
- Provide you with the tools to make decisions that are more informed and present reports to interested stakeholders in your respective offices.

**2.2. Before we start**

Throughout the following pages, we will reference several menu options and how you can get to them. In order to do this, we will use the following convention: when you see the following, View > Zoom, the first word (View) refers to a menu option usually found in the top left, under the title bar. The word that follows (Zoom) is a menu choice found under the first option you made.

- **What is a spreadsheet?**

A spreadsheet is the computerized equivalent of a general ledger. It has taken the place of the pencil, paper, and calculator. Spreadsheet programs were first developed for accountants but have now been adopted by anyone wanting to prepare a budget, forecast sales data, create profit and loss statements, and Compare financial alternatives and any other mathematical applications requiring calculations.

The electronic spreadsheet is laid out similar to the paper ledger sheet in that it is divided into columns and rows. Any task that can be done on paper can be performed on an electronic spreadsheet faster and more accurately. The problem with manual sheets is that if any error is found within the data, all answers must be erased and recalculated manually. With the computerized spreadsheet, formulas can be written that are automatically updated whenever the data are changed.

- **What can a spreadsheet do**

In contrast to a word processor, which manipulates text, a spreadsheet manipulates numerical data and text. Using a spreadsheet, one can create budgets, analyze data, produce financial plans, and perform various other simple and complex numerical applications. By having formulas that automatically recalculate, either built by you, the user, or the built-in math functions, you can play with the numbers to see how the result is affected. Using this “what-if?” analysis, you can see what affect changing a data value or calculation can have on your monitoring program.

Spreadsheets can also be used for graphing data points, reporting data analyses, and organizing and storing data.

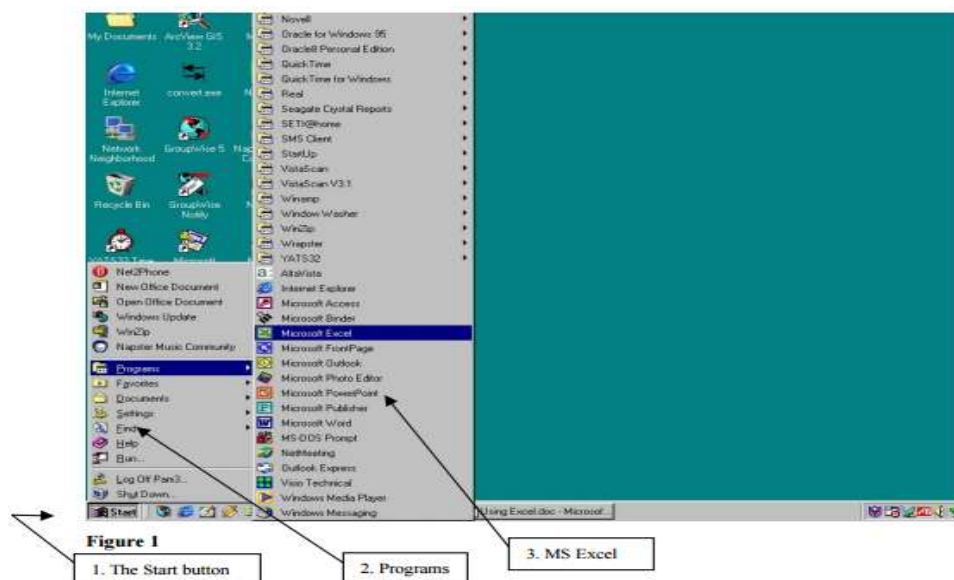
### • **Starting Excel**

You are encouraged to start using MS Excel as you read through the following materials to familiarize yourself with the topics and procedures.

- ✓ Click the Start button on the Windows taskbar.
- ✓ The Start menu opens
- ✓ Point to Programs
- ✓ The Programs menu opens
- ✓ Click Microsoft Excel

A. Excel opens a new workbook

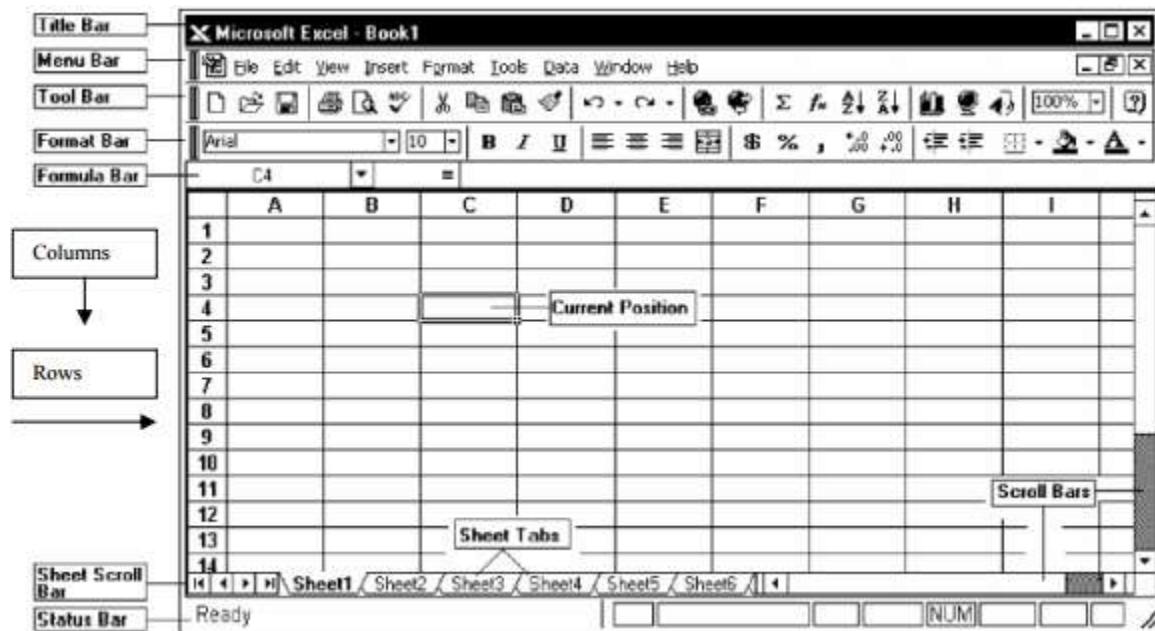
Note: an icon for MS Excel may be located either on the desktop or on the Office toolbar



**Figure 68: Excel opens a new workbook**

### • **The Excel Screen**

The screen in Excel looks different than those used in other types of applications.



**Figure 69: Excel Screen**

## Using “Help”

Excel, along with many of the Microsoft applications, has its own online help menu. There are several ways to access help. Either press F1 on the keyboard or choose Help Æ Microsoft Excel Help from the Menu bar.



**Figure 70: Help from the Menu bar**

- **Data Entry**

In the following section, you will learn how to enter sample data, edit that sample data, and delete &

undelete that data. You should create a sample spreadsheet so you can practice the following procedures.

Entering data is as simple as beginning to type.

- ✓ Click once on the cell you want to use for data entry and begin typing
- ✓ . The following keys can be used to update the contents of the cell: Enter, Tab, or any of the directional arrows


Editing data is simple as well. There are several options for doing this:

Highlight the cell, type in a completely new amount (caution: this will overwrite any data already



- ✓ in the cell)
- ✓ Double-click the cell and a flashing insertion point (cursor) appears in the cell
- ✓ Use the formula bar
- ✓ Highlight the cell to edit and press F2 on your keyboard
- ✓ Deletion of data can be relatively straightforward. You can:
- ✓ Select a cell or range of cells (click and hold your mouse or use the shift-click method) and press delete
- ✓ Select a cell or range of cells and Edit > Clear > then choose from All, Contents, or Formatting from the menu bar
- ✓ To actually remove the cells instead of just clearing the data, select a cell or range of cells and Edit> Delete...; you are given the option of shifting the remaining cells a direction or deleting the entire row or column.

Undoing an action can save both time and headache. In the toolbar, you will find two arrows. Using these

arrows,  you can either undo (arrow pointing left) the last action or series of actions you

just completed, or Redo (arrow pointing right) an action such as formatting or deleting; you can even Redo an action that was undone.

- **Let Excel enter data for you**

Excel can help you enter series of numbers, dates or times. For instance, if you want to fill a column with a list of consecutive or patterned dates or numbers, instead of typing dates or numbers in each cell of the column you can use the “Series” command or you can click and drag the “fill handle” on a cell. Both of these methods are described below. You can use a pre-determined series using the series command that you can customize (for instance, date fills can be weekly instead of daily), or you can enter several logical pieces of the series by hand and when selecting cells, include your custom series. Excel will fill the cells with a series based on the cells in the original series selection

- **Using the Series command.**

- ✓ Select the cell that contains the first date or
- ✓ Number. Use your mouse to drag the selection
- ✓ box down the number of rows that you wish to
- ✓ Fill. Go to the Edit menu, and select Fill, then
- ✓ Series. The Series window will appear. For this
- ✓ example, chose “Date” on the Type list and
- ✓ “Day” on the Date Unit list. Click on OK and the



- ✓ selected cells will be filled with consecutive dates

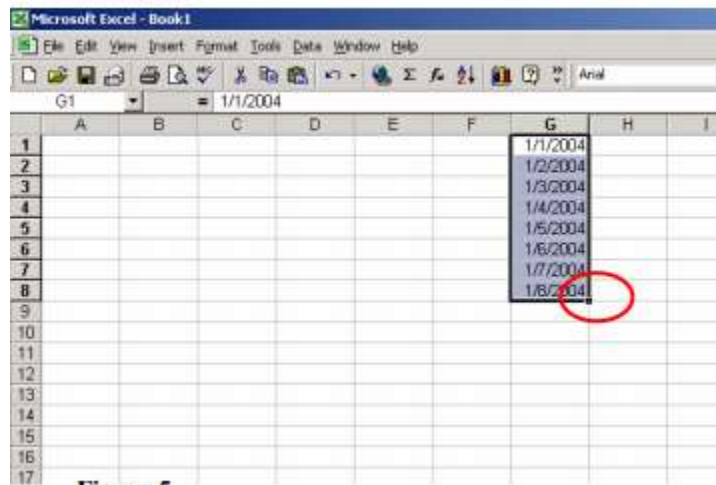


Figure 5

- **Using the Fill Handle**

When you select a cell, a small black square appears in one corner of the selection. When you point to the fill handle, the pointer changes to a black cross. Left click with the black cross and hold it down while you drag the selection box over the cells that you want to fill. When you release the mouse button, the boxes will fill automatically.

- **Formatting**

Once you have created your worksheet, you will want to format it to make it as clear as possible. Formatting is the structure and layout of a worksheet and its individual parts. Using some of the tools available, you can change the alignment, font size and weight, the way numbers display, even add borders and shading to your finished product.

- **Column Width**

Sometimes the data you enter does not fit the default cell width of 8.43 characters. When this happens, you will see either ##### or see a number expressed in scientific notation (2.34E+08). To fix this, you will have to adjust the cell width. There are two options available to do this:

- ✓ Make sure the highlighted cell is in the column that you want adjusted. Choose Format > Column > Width from the menu bar. Then type in a new width and press enter.





- ✓ Using the mouse, position the pointer at the right-most end of the column you wish to re-size (in
- ✓ the column header area where the letters are). Your pointer will turn into a vertical bar with two
- ✓ small arrows on either side. You can then drag and drop to the desired column width.
- ✓ . Double-click on the right-most edge of the column header.

### • **Row Height**

In the same respect, some of the data you enter will not fit the height of the cell and/or row it is in. In order to change the row height, follow the following steps:

- ✓ Point to the bottom edge of the row number boundary to get the two-headed arrow
- ✓ Drag upward or downward to desired height
- ✓ You can also highlight the row and use the Format > Row > Height menu options
- ✓ If you have only certain cells that are too wide or too tall, you can select the “wrap text” option. Select the row or column to be adjusted, use the Format>Row(or column) and select the Alignment tab for the option of “wrap text.”

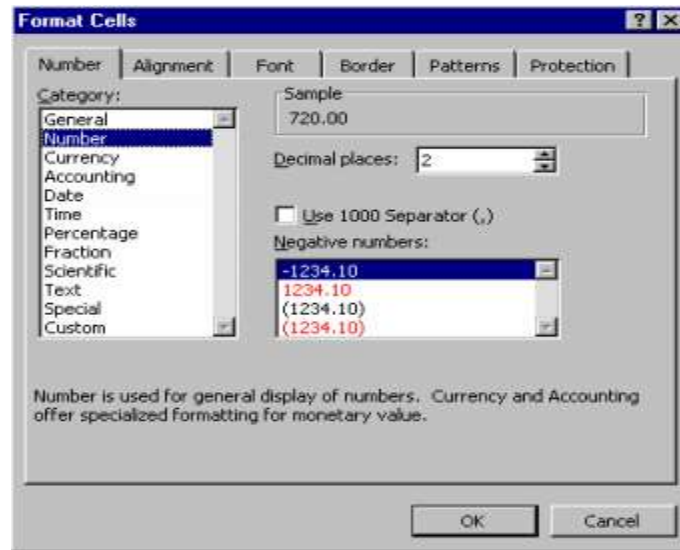
### • **Inserting & Deleting**

If you decide that you need another column in between your existing values, or that you want to insert a row or rows between existing values, you should use the following methods:

- Inserting a single column: click on the column to the right of where you want the new column, then choose Insert > Columns
- Inserting a single row: click a cell in the row below where you want the new row and choose Insert > Rows
- Deleting a row or column: select a cell in each row or column to be deleted and choose Edit > Delete

### • **Numbers**

To format the way your cells display numbers, select the cells you would like to format. Choose Format>Cells > Number Tab from the menu bar. The format cells dialog box appears, looking similar to



**Figure 71: Format Cell**

Using this dialog box, you can choose the way that your numbers look, from the number of decimal places (rounding) to scientific notation, currency, and percentages. The Sample section of the dialog box will show you what your data might look like after you format it. Use caution when formatting your data to a different type than General or Number—for instance, if you have the value “10” in your cell and you want to change the formatting to percentage, your resulting value will be 1000%; you would have to enter 0.10 for it to equal 10%! You can always revert your formatting and the original values will be restored

### • **Formula Creation & Math Functions**

Excel provides several built-in math functions, as well as provides you the opportunity to create your own custom formulas. To use a built-in function:

- ✓ Click in the cell where you want the results to appear.
- ✓ Click the paste function on the standard toolbar
- ✓ The Paste Function dialog box appears. Select a category in the Function category list. All of the associated functions are listed in the Function name, with a description listed below.
- ✓ Click OK to close the dialog box and open the Formula Palette.
- ✓ After defining your arguments, click ok and the formula palette will close.

You can also create your own formula by either typing it or selecting cells to use in performing a calculation. There are a few tips you need to keep in mind when creating your own formulas:



- ✚ Order of operations: Parenthesis, Exponentials, Multiplication & Division first, Addition and Subtraction second, from left to right (aka PEMDAS)
- ✚ All formulas must start with an equals sign
- ✚ Use a blank cell as your active cell to avoid errors

Arithmetic operators To perform basic mathematical operations such as addition, subtraction, or multiplication, combine numbers or produce numeric results, use the following arithmetic operators

Arithmetic operator	Meaning	Example
+ (plus sign)	Addition	3+3
– (minus sign)	Subtraction Negation	3–1 -6
* (asterisk)	Multiplication	3*3
/ (forward slash)	Division	3/3
% (percent sign)	Percent	20%
^ (caret)	Exponentiation	3^2 (the same as 3*3)

**Figure 72: Arithmetic Operation**

**Reference operators** Combine ranges of cells for calculations with the following operators.

Reference operator	Meaning	Example
: (colon)	Range operator, which produces one reference to all the cells between two references, including the two references	=AVG(B5:B15)
, (comma)	Union operator, which combines multiple references into one reference (used when referencing cells that are not consecutive)	=SUM(B5:B15,D5:D15)

## • Creating charts

Charts can emphasize important points or trends in your data and make them easier to understand. Using charts, you are able to get your point across efficiently and quickly, embedding them in reports or presenting them to interested audiences.

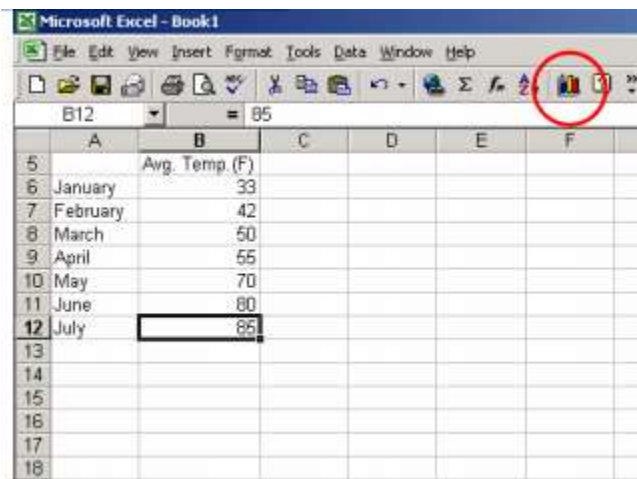
**What do different graphs represent?**

The following table illustrates what some of the different graphs illustrate

**Table 2: Graphs representation**

Name	Description of Use
Column	Compares values across categories
Bar	Compares values across categories
Line	Displays a trend over time
Pie	Displays parts of the whole
XY (Scatter)	Compares pairs of values
Area	Shows the trends of value over time

To create a chart, you must first have data in your worksheet. Included with this data, it is helpful to have labels in the column to the left of the data to indicate categories, labels across the row above the data that indicate the type of data or the time over which the data will be analyzed, data all formatted the same way, and data in cells that are next to each other.



**Figure 73: Microsoft Excel- book-1**

First, determine the type of chart that will display the data most effectively. Second, select the cells that contain the data that you want charted – this is the data range.

- **Chart Wizard**



Click the Chart Wizard button (circled in Figure 7) from the standard toolbar. The wizard will then open up and prompt you for choosing chart types, data ranges, plotting methods, titles, legend placement, and chart placement.

- ✓ Choose the type of chart you would like to create; Click Next
- ✓ . Make sure the chart looks like you expect it to; if not, you may need to tell Excel to analyze the data in rows instead of columns or vice-versa; Click Next
- ✓ The third step has a series of tabs with options for adjusting how your chart looks; Click Next after you have adjusted options on all desired tabs
- ✓ Titles: type a meaningful heading in any desired area (for instance, a chart title may not be sufficient, but the axes may need to be labeled as well)
- ✓ Axes: select or deselect showing the axis values
- ✓ Gridlines: select or deselect the gridlines on the chart to make it easier to read
- ✓ Legend: choose whether or not to show the chart legend and where to place it
- ✓ Data Labels: choose whether to include data labels, values, percents, etc.
- ✓ Data Table: choose whether or not to include the table of values from your worksheet

The final step is to select where to place the chart; select As a New Sheet [Chart 1] for the chart to be placed on a new worksheet in your workbook or select As Object In [Sheet1] for the chart to be placed within a spreadsheet. Selecting as a New Sheet will yield a chart that is easier to export to other applications such as MS Word or PowerPoint

#### • **Formatting the Chart**

Once your chart is created, you may decide there are some things you need to change about how it looks or how the data are displayed. Scale: To adjust the scale of the chart for bar or line graphs, highlight the axis to adjust and go to Format Selected Axis (or double-click on the selected axis). Depending on which axis you select, you'll get different options. Typically the x-axis (vertical) is the one you'll want to adjust. You can

uncheck the "Auto" boxes and set the values at your own levels. Minimum is the lowest value displayed

on the x-axis. Typically, this is zero, but it may at times be negative or you may want to start it at 1000, depending on how your data are distributed. Maximum is the highest value displayed, and is usually set at the most logical value based on your highest data



point. You may want to adjust this value in order to change the distribution of the points on the graph. Major and minor unit refer to how the gridlines are displayed on the chart and how the numbers are displayed on the x-axis. If the major unit is 10, then the values on the axis will be something like: 10, 20, 30, 40, 50; unless you have minor gridlines shown (an option in the chart wizard), then the minor unit value will not affect the chart appearance.

- **Colors, Patterns and Fonts**

To make your chart even more stunning visually, you can adjust the colors of the background, foreground, borders, fonts, axes, bars, lines, pie slices, etc., etc. Just double-click on the object you want to format and the color palette will open for you to express your artistic creativity. Patterns come in useful when you are relying on black-and-white displays of multiple parameters because you can more easily distinguish one bar or one line from another

When working with Pie Charts, be careful to select the piece of the pie you to which you want to apply a color or pattern (the first click will select the pie itself, the second click will select a piece of the pie) and then double-click on it. Otherwise you will change the color or pattern for the entire pie instead of each piece.

You can also adjust the size and style of the font for different pieces of your chart by double-clicking on the desired text or section. (Note: if you change the font for a value on the x-axis, for instance, all values on the x-axis will change formatting). 3-D Charts: If you have created a chart using a 3-D chart type, you can modify the angles at which the

Chart is portrayed. Click once on the Chart so the black handles are selecting the entire chart. Go to Chart→3-D View to change the depth or angle. Once a chart has been created, you can also go and change the style of chart or other options that were set in the Chart Wizard. Go to the Chart menu for a list of options.

- **Text Import Wizard**

Some types of air monitors supply data in a text format. These files are often identified by the .txt suffix (example: february00.txt). Text files contain lines of characters, including both numbers and letters. To divide these lines of text into columns of data, characters such as commas or tabs are inserted to separate each field or column of data.

Text data can also be in a fixed width format, where the fields are aligned in columns with spaces between each field. Excel's Text Import Wizard can import



both of these text file data formats. The Text Import Wizard takes the lines of characters and converts them into data contained within the columns and rows of an Excel file. Chose Data > Get External Data>Import Text File from the menu bar. The import text dialog box appears. Choose the text file that you would like to import from Excel and double click on it or single click the file name, then click the Import button. Follow the instructions given by the Text Import

- **Wizard dialog boxes that follow.**

- ✓ Printing
- ✓ Previewing

Before you print a worksheet, click Print Preview to see how the sheet will look when you print it. The way pages appear in the preview window depends on the available fonts, the resolution of the printer, and the available colors.

### **2.3. Page setup**

- **Steps to Change the page orientation**

- ✓ Click the worksheet.
- ✓ On the File menu, click Page Setup, and then click the Page tab.
- ✓ Under Orientation, click Portrait or Landscape.
- ✓ Print a worksheet on a specified number of pages
- ✓ Click the worksheet.
- ✓ On the File menu, click Page Setup, and then click the Page tab.
- ✓ Click Fit to.
- ✓ Enter the number of pages on which you want to print the work.

- **Steps to print row and column labels on every page:**

- ✓ Click the worksheet.
- ✓ On the File menu, click Page Setup, and then click the Sheet tab.
- ✓ To repeat column labels on every page, click Rows to repeat at top, and then enter the rows that contain the column labels.

To repeat row labels on every page, click Columns to repeat at left, and then enter the columns that contain the row labels. Note Microsoft Excel prints repeating row and column labels only on the pages that include the labeled rows or columns. Pages for rows below the labeled rows or columns to the right of the labeled columns are printed without the repeating labels

**Self-Check -2****Written Test**

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

**Say true or false**

1. The electronic spreadsheet is laid out similar to the paper ledger sheet in that it is divided into columns and rows.

**Note: Satisfactory rating - 3 points**

**Unsatisfactory - below 2 points**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_



<b>Operation Sheet -2</b>	<b>Manipulating import object using formatting features</b>
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**Steps to manipulating import object using formatting features**

**Step-1** Click the worksheet

**Step- 2** On the File menu, clicks Page Setup, and then click the Sheet tab.

**Step- 3** To repeat column labels on every page, click Rows to repeat at top, and then





### Information Sheet-3

### Creating chart using selected data in the spread sheet

#### 3.1. Introduction;-

Creating a chart object and a Chart Sheet An Excel chart is a visual representation of numeric data in a worksheet. chart helps you identify trends, make comparisons, and recognize patterns in the numbers. Charts are dynamic and linked to the data, so when values in the worksheet change, the chart is automatically redrawn. You can display a chart in the worksheet with its data, or you can place a chart on its own sheet.

There are different kinds of charts, and Excel can recommend the best chart type based on your selected data. It is essential; however, that you select appropriate data for a chart, because it is possible to build charts that illustrate nothing of any consequence. With experience and practice, you will learn how to create charts that have meaning to your work Create a Chart Object

A chart object is a selectable item surrounded by a square border that is separate from worksheet data. A chart object contains chart elements such as titles, axes, and gridlines, and each element is selectable, too. You can size and position a chart object in a worksheet, and you can size and position each chart element on the chart.

- **Creating Excel Charts**

Patterns and relationships between numbers are often easier to recognize when they are displayed in chart form. Our beginner's guide provides step-by-step directions for creating charts in all versions of Excel!

An Excel chart may be placed inside of a worksheet next to the data, or placed in a separate worksheet. Excel charts can also be copied to other software programs such as PowerPoint. Directions are given for each version of Microsoft Excel. Now let's learn how to create charts in Microsoft Excel!

Disclosure: This post may contain affiliate links, meaning, at no additional cost to you, we may earn a small commission if you click through and make a purchase. ○

Below are links to the tutorial sections. We recommend reading the tutorial from start to finish.

Before selecting the data you wish to graph, it's helpful to have an idea of what chart type would best display your data. The type of data often determines the chart type.



If multiple chart types can be used for your data, choose the chart type that will help the user best visualize the patterns and relationships between the data values. See "Most Popular Chart Types" below.

- **All About Chart Data**

When you chart in Excel, you chart one or more data series. A data series is a row or column of numbers that are entered into the worksheet for graphing.

A pie chart can only chart a single data series. If multiple data series are selected, Excel will ignore all but the first. The image below shows a single data series.

**Table 3: single series of data**

	A	B	C	D	E	F
1		1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Year
2	Flowers	\$ 170	\$ 240	\$ 200	\$ 230	\$ 840
3	Shrubs	\$ 220	\$ 280	\$ 250	\$ 290	\$ 1,040
4	Trees	\$ 260	\$ 340	\$ 200	\$ 320	\$ 1,120

Most other chart types can handle multiple data series. In the worksheet below, we have outlined, in red, three data series (three rows in this case), which form a cell range.

**Table 4: Multiple series of data**

	A	B	C	D	E	F
1		1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Year
2	Flowers	\$ 170	\$ 240	\$ 200	\$ 230	\$ 840
3	Shrubs	\$ 220	\$ 280	\$ 250	\$ 290	\$ 1,040
4	Trees	\$ 260	\$ 340	\$ 200	\$ 320	\$ 1,120

- **Most Popular Chart Types**

The four most popular chart types in Excel are described below, along with the best use of each chart type. For detailed descriptions of all chart types available in Excel, see our tutorial Excel Chart Types: Pie, Column, Line, Bar, Area, and Scatter Charts.

**Table 5: Popular Chart Types**

Type	Image	Description	When to Use
<b>Pie Chart</b>		Displays the percentages of a whole for each member in a series.	Excellent chart for comparing values in a <b>single series</b> as percentages of a whole.
<b>Column Chart</b>		Using vertical columns, displays values for one or more series over time or other category.	Especially effective in comparing values for multiple series. The 3-D Column chart displays multiple series over three axes (X, Y, and Z).
<b>Bar Chart</b>		Displays values for one or more series using horizontal columns.	Though useful for single or multiple series, this chart type especially effective in comparing large quantity of values in a single series.
<b>Line Chart</b>		Displays values as equally spaced points connected with a line.	This chart is most useful displaying trends over time or other ordered category for single or multiple data series. © Keynote Support

#### • How to Select Data for an Excel Chart

To select the cells that contain the values you want shown in the chart, click and drag the cursor from the top left cell of your cell range to the bottom right cell of your range, including column and row headings when possible. Columns containing totals, like in our worksheet above (e.g. Year), are typically NOT selected for the chart.

Non-contiguous rows and columns of cells are selected by pressing and holding the Ctrl key while selecting. But remember that your selection must form a rectangle.

#### How to Create a Chart in Microsoft Excel

After you've chosen your chart type and selected the data series (rows or columns) to chart, follow the directions below to insert the chart into your spreadsheet. Create a Chart in Excel 2007, 2010, 2013, and Newer Versions Note: In the new versions of Excel, hover the cursor over a chart type or sub-type on the Insert ribbon to display a description of the chart.

- ✓ Click the Insert tab.
- ✓ the chart type from the Charts section of the ribbon. The sub-type menu displays.
- ✓ Click the desired chart sub-type. The chart appears on the worksheet.



If you want to create a second chart, click somewhere in the worksheet to "deselect" the current chart first, or the new chart will replace the current chart.

- **Create a Chart in Excel 2003, 2000, and 98**

Note: In older versions of Excel, click the chart type or sub-type in the Chart Wizard to display a description of the chart.

- ✓ Click Insert | Chart. The Chart Wizard appears.
- ✓ Step 1: Click the desired chart type in the left column, and click one of the chart sub-types in the right column. Click Next.
- ✓ Step 2: Excel assumes you wish to keep the series data in rows. You may click "Columns" to see how the chart changes. When finished, click Next.
- ✓ Step 3: Type a chart title. If you wish to add a title for the axes, do so. Then click Next.
- ✓ Step 4: Excel assumes you want the chart placed on the worksheet. If you would like the chart placed in a new sheet, click the radio button, type a sheet name, and click Finish.

- **How to Delete a Chart**

---

- ✓ To delete a chart that has just been created, click the Excel Undo button. To delete an existing chart, select the chart by clicking on its edge, and press the Delete key or right-click and select Cut.

- **Excel Chart Helpful Hints**

For best results, keep the Excel chart simple and uncluttered. It is better to use multiple charts to express patterns and relationships between data than to use one chart that is too busy and over-complicated.

A colorful chart is ideal for online presentations or for printing on a color printer. But shades of gray are best for monochrome printing of charts.



Self-Check 3	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page

**Say true or false**

- 1, A colorful chart is ideal for online presentations or for printing on a color printer.
- 2, Patterns and relationships between numbers are often easier to recognize when they are displayed in chart form.

**Note: Satisfactory rating - 3 points**

**Unsatisfactory –**

**below 3 points**

You can ask you teacher for the copy of the correct answers

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_



<b>Operation Sheet -3</b>	<b>Creating chart using selected data in the spread sheet</b>
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**Steps to Create chart using selected data in the spread sheet**

**Step 1** – Select the third set of data and insert a Line chart

**Step 2** – Format the chart as follows

**Step 3** – Select the cells

**Step 4** – Click OK in the Select Data Source dialog box

**Step 5** – As you can observe, some values



#### Information Sheet-4

#### Displaying selected data in a different chart

##### 4.1. Introduction:-

Data are a set of facts, and provide a partial picture of reality. Whether data are being collected with a certain purpose or collected data are being utilized, questions regarding what information the data are conveying, how the data can be used, and what must be done to include more useful information must constantly be kept in mind. Since most data are available to researchers in a raw format, they must be summarized, organized, and analyzed to usefully derive information from them. Furthermore, each data set needs to be presented in a certain way depending on what it is used for. Planning how the data will be presented is essential before appropriately processing raw data.

First, a question for which an answer is desired must be clearly defined. The more detailed the question is, the more detailed and clearer the results are. A broad question results in vague answers and results that are hard to interpret. In other words, a well-defined question is crucial for the data to be well-understood later. Once a detailed question is ready, the raw data must be prepared before processing. These days, data are often summarized, organized, and analyzed with statistical packages or graphics software. Data must be prepared in such a way they are properly recognized by the program being used. The present study does not discuss this data preparation process, which involves creating a data frame, creating/changing rows and columns, changing the level of a factor, categorical variable, coding, dummy variables, variable transformation, data transformation, missing value, outlier treatment, and noise removal.

We describe the roles and appropriate use of text, tables, and graphs (graphs, plots, or charts), all of which are commonly used in reports, articles, posters, and presentations. Furthermore, we discuss the issues that must be addressed when presenting various kinds of information, and effective methods of presenting data, which are the end products of research, and of emphasizing specific information.

##### 4.2. There are four ways you can display the source data for a chart.

Displaying the Select Data dialog box.

- ✓ Using the Chart Range Indicator you can quickly see which range of cells an embedded chart is referring to.
- ✓ Selecting an individual series and editing the Series Formula.
- ✓ The quickest way to selected stuff is to use the Layout tab at the top



- ✓ Select Data Source dialog box
- ✓ Hidden and Empty Cells
- ✓ Edit Series dialog box

- **Chart Tools, Design Tab**

When you activate a chart the contextual Chart Tools tabs are automatically displayed. You can display the source data for the active chart by activating the chart and selecting Select Data. This will display the Select Data dialog box.

- **Select Data**

Add - Displays the Edit Series dialog box explained below allowing you to select the data from a new series

- ✓ Edit - Displays the Edit Series dialog box explained below
- ✓ Remove - Removes the series which is currently selected

### **Using the Chart Shortcut Menu**

The easiest way to adjust the source data of a chart is to right mouse click and select "Source Data" and click You can select either the chart area or the plot area to display this shortcut menu.

- **Plot area shortcut menu**

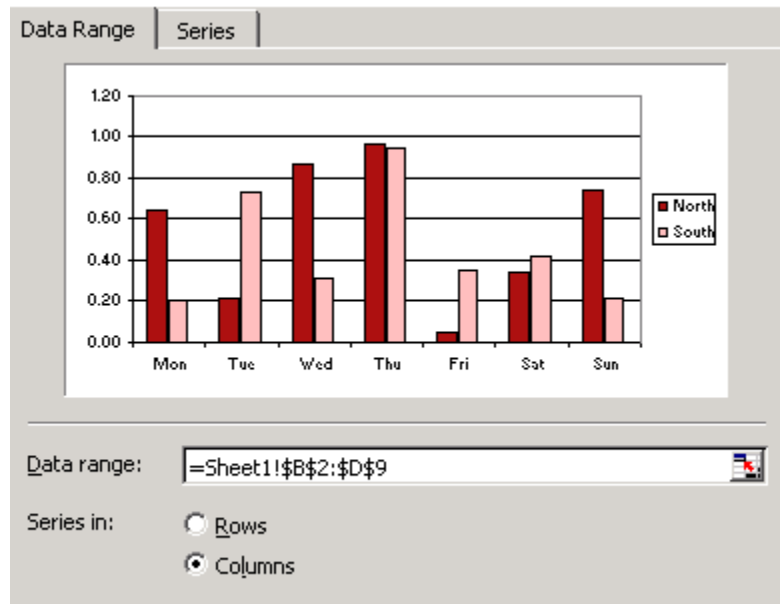
Using the (Chart > Source Data) dialog box

Displaying the (Chart > Source Data) dialog box gives you much greater control over the individual series on your chart the series tab You can select either the chart area or the plot area to display this shortcut menu.

- **Plot area shortcut menu**

Using the (Chart > Source Data) dialog box Displaying the (Chart > Source Data) dialog box gives you much greater control over the individual series on your chart.





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**Figure 74: Chart**

You can modify the range reference on the Data Range tab to adjust the data range for the whole chart. The Data range textbox displays the range of cells which is being used for the source data. If you originally selected a single cell, then this will have been automatically expanded to the current region. Data range - You can edit the cell range manually or you can use the mouse to highlight a different range. Using the arrow keys while in this box will actually select cells instead of moving your position within the box.

- ✓ Rows - Plots the data series of the chart using each row as a separate series.
- ✓ Columns - Plots the data series of the chart using each column as a separate series.

You can modify the range references for the individual series using the Series tab of this dialog box





Self-Check 4	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page.(3 point each

**Say true or false**

1. Plots the data series of the chart using each column as a separate series is called row
2. The Automatic Range Finder can only be used with embedded charts.

**Note: Satisfactory rating - 3 Unsatisfactory - below 3and**

**Answer Sheet**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

## Information Sheet-5

## Modifying chart using formatting features

### 5.1. Introduction:-

You filled the rows and columns with labels. You had a first to the idea that spread sheet can be a powerful tool for handling numeric data that requires mathematical or statistical processing.

- Select Insert > Chart, or click the Insert Chart icon on the
- Standard toolbar. A chart appears that has been created using sample data.
- To enter your own data in the chart, see “Entering chart data” on page

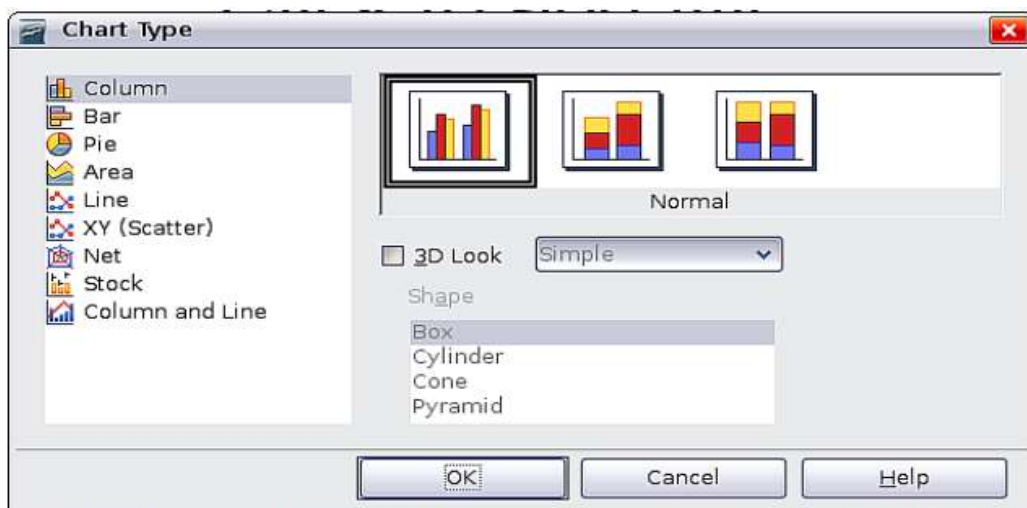
### Choosing a chart type

A wide range of chart types and variations are available (see “Chart types” on page 6). To choose a chart type

- ✓ Double-click the sample chart. The window changes; the side panes are gone and the main toolbar shows tools specific for charts.

The chart itself now has a gray border. (If the main toolbar is not showing, select View > Toolbars > Main Toolbar.)

Click the Chart Type icon or select Format > Chart Type ,or right-click on the chart and choose Chart Type. The Chart



**Figure 75: Chart Type dialog box showing two-dimensional charts**



- ✓ As you change selections in the left-hand list, the chart examples on the right, and the chart in the main window, both change. If you move the Chart Type dialog box to one side, you can see the full effect in the main window.
- ✓ As you change chart types, other selections become available on the right-hand side. For example, some chart types have both three-dimensional and two-dimensional variants; 3D charts have further choices of shape for the columns or bars.
- ✓ Choose the chart characteristics you want, and then click OK. The Chart Type dialog box closes and you return to the edit

• **Chart types:-**Your data can be presented with a number of different charts; choose a chart type that best suits the message you want to convey to your audience.

- ✓ **Column charts:-**Column charts are commonly used for data that shows trends overtime. They are best for charts that have a relatively small number of data points. (For large time series, a line chart would be better.) It is the default chart type.
- ✓ **Bar charts:-**Bar charts are excellent for giving an immediate visual impact for data comparison where time is not important, for example to compare the popularity of a few products in a marketplace.

• **Pie charts:-**Pie charts are excellent when you need to compare proportions, for example, comparisons of departmental spending: what the department spent on different items or what different departments spent.

They work best with smaller numbers of values, about half a dozen; more than this and the visual impact begin to fade. This is one of the charts that can profitably be made into a 3D chart. It can then be tilted, given shadows, and generally turned into a work of art. You can choose to explode the pie chart, but this is an all or nothing option.

- ✓ **Area charts:-**An area chart is a version of a line or column graph. It may be useful where you wish to emphasize volume of change. Area charts have a greater visual impact than a line chart, but the data you use will make a difference. You may need to use transparency values in an area chart.
- ✓ **Line charts:-**A line chart is a time series with a progression. It is ideal for raw data and useful for charts with plentiful data that shows trends or changes over time where you want to emphasize continuity. On line charts, the x-axis is ideal to represent time series data. 3D lines confuse the viewer, so just using a thicker line often works better.
- ✓ **Scatter or XY charts:-**Scatter charts are great for visualizing data that you have not had time to analyze, and they may be the best for data when you have a constant value with which to compare the data; for example weather data, reactions under different acidity levels, conditions at altitude or any data which matches two series of



numeric data. In contrast to line charts, the x-axis are the left to right labels which usually indicate a time series.

**Net charts:-**A net chart is similar to polar or radar graphs. They are useful for comparing data that are not time series, but show different circumstances, such as variables in a scientific experiment or direction. The poles of the net chart are the y-axes of other charts. Generally, between three and eight axes are best; anymore and this type of chart becomes confusing.

**Stock charts:-**A stock chart is a specialized column graph specifically for stocks and shares. You can choose traditional lines, candlestick, and two column type charts. The data required for these charts is quite specialized, with series for opening price, closing price, and high and low prices. Of course the x-axis represents a time series.

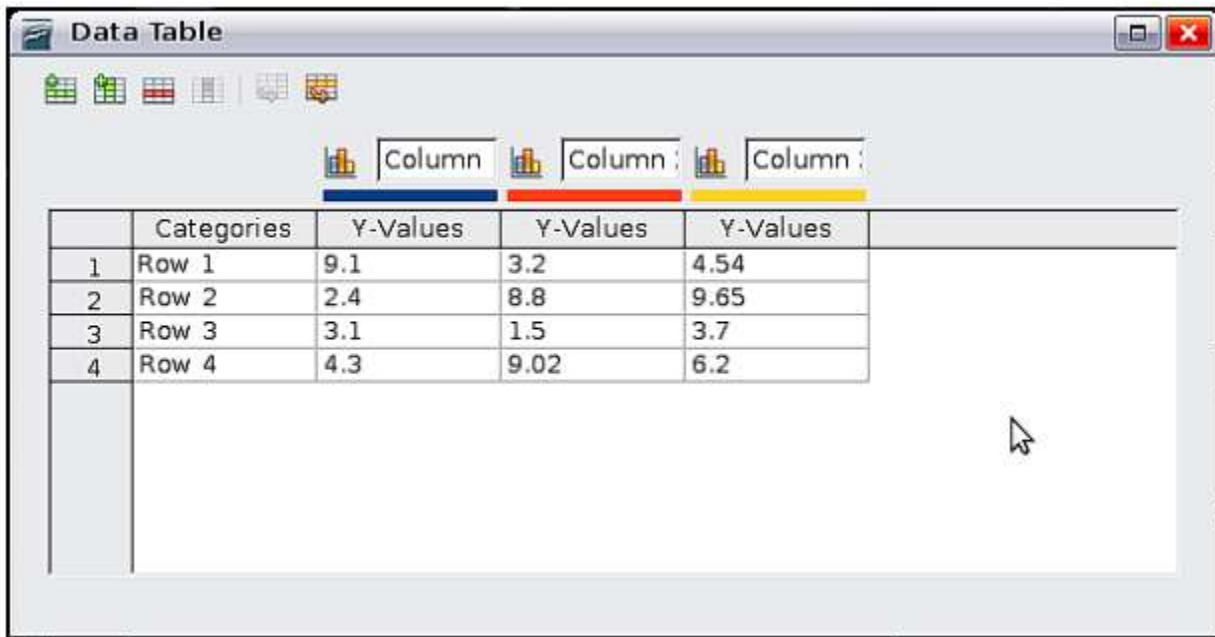
**Column and line charts:-**A column and line chart is a combination of two other chart types. It's useful for combining two distinct but related data series, for example sales over time (column) and the profit margin trends (line).

### Entering char Opening a chart data window

- ✓ If the chart is not already in edit mode (with a gray border), double-click it. The main toolbar now shows tools specifically for charts. (If the main toolbar is not showing, select View > Toolbars > Main Toolbar.)
- ✓ Click the Chart Data icon or select View > Chart Data

Table, or right-click on the chart and choose Chart Data Table. The Data Table dialog box (Figure 2) appears.

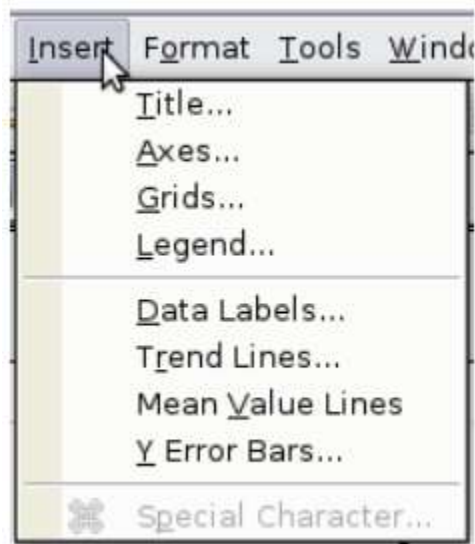
**Tip:-** If you drag the Data Table dialog box so that your chart is visible, you can then immediately see the results of each change after clicking in a different cell



**Figure 76: Data Table dialog box**

## 5.2. Entering data:-Enter data in the Data Table dialog box.

- ✓ Insert buttons insert a row or column.
  - ✓ Delete buttons remove the information from a selected row or column.
  - ✓ Move buttons move the contents of the selected column to the right, or move the contents of the selected row down.
  - ✓ Input fields and cells are where you insert data. Type or paste information into the boxes within the desired rows and columns
- **Formatting the chart:-**In addition to the wide range of chart type and appearance choices available through the Chart Type dialog box, Impress provides other ways to customize a chart. This section introduces some of them.
  - **Adding or removing elements from a chart:-**The default chart includes only two elements: the chart wall and the legend (also known as the key). You can add other elements using the Insert menu, as shown in Figure 3. The various choices open dialog boxes in which you can specify details



**Figure 77: Insert menu for charts**

**Using the Format menu:-**The format menu has many options for formatting and fine-tuning the look of your charts. Double-click the chart so that it is enclosed by a gray border. Click

**Format in the main menu.** See Figure 4



**Figure 78: Format menu**

- ✓ Object Properties opens a dialog box in which you can specify the area fill, borders, transparency, characters, font effects, and position of the selected element of the chart.
- ✓ Position and Size opens the Position and Size dialog box (see “Resizing and moving the chart”).
- ✓ Arrangement provides two choices: Bring Forward and Send
- ✓ Backward, of which only one may be active for specific items. Use these choices to arrange overlapping data series. Title formats the titles of the chart and its axes.

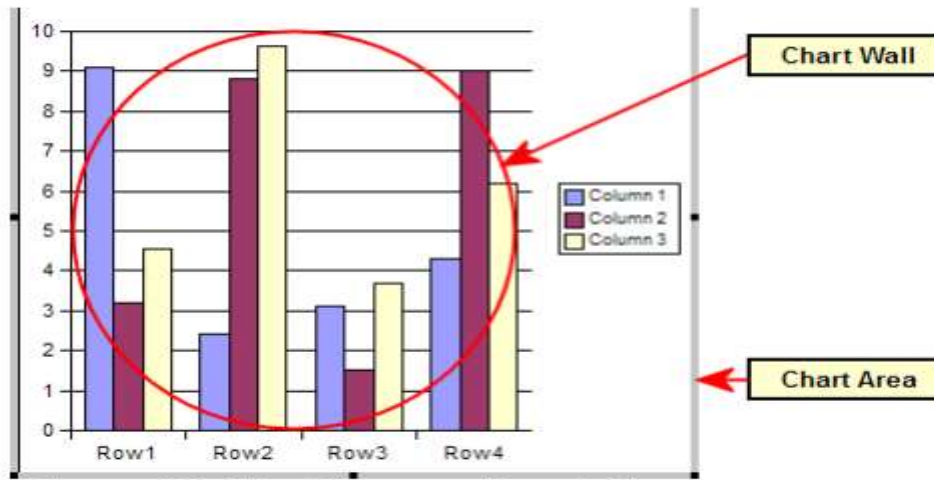
Axis formats the lines that create the chart as well as the font of the text that appears on both the X and Y axes.

Grid formats the lines that create a grid for the chart.

- ✓ Legend formats the location, borders, background, and type of the legend.
- ✓ Chart Wall, Chart Floor, and Chart Area are described in the following sections.
- ✓ Chart Type changes what kind of chart is displayed and whether it is two- or three-dimensional.



- ✓ 3D View formats the various viewing angles of 3D chart Floor and 3D View are only available for a 3D chart. These options are unavailable (grayed out) if 2Dchart is selected. The two main areas of the chart control different settings and attributes for the chart. See Figure 5.



**Figure 79: The Chart wall and Chart area**

- ✓ Chart wall contains the graphic of the chart displaying the data.
- ✓ Chart area is the area surrounding the chart graphic. The (optional) chart title and the legend (key) are in the chart area

**Note:-**Chart Floor, from the Format menu, is only available for 3Dcharts and has the same formatting options as 3Chart Area and

**Chart Wall:-**Knowing the difference between the chart wall and chart area is helpful when formatting a chart.

**Resizing and moving the chart:-**You can resize or move all elements of a chart at the same time, in two

**Ways:-** interactively, or by using the Position and Size dialog box. You may wish to use a combination of both methods: interactive for quick and easy change, then the dialog box for precise sizing and positioning.

**To resize a chart interactively:**

- ✓ Click on the chart to select it. Green sizing handles appear around the chart.





- ✓ To increase or decrease the size of the chart, click and drag one of the markers in one of the four corners of the chart. To maintain the correct ratio of the sides, hold the Shift key down while you click and drag.
- **To move a chart interactively:**
  - ✓ Click on the chart to select it. Green sizing handles appear around the chart.
  - ✓ Hover the mouse pointer anywhere over the chart. When it changes shape, click and drag the chart to its new location.
  - ✓ Release the mouse button when the element is in the desired position.
- **To resize or move a chart using the Position and Size dialog box:**
  - ✓ Click on the chart to select it. Green sizing handles appear around the chart.
  - ✓ Choose Format > Position and Size from the menu bar, or right-click and choose Position and Size from the pop-up menu, or press F4. For more about the use of this dialog box, see

**Moving chart elements:** You may wish to move or resize individual elements of a chart, independent of other chart elements. For example, you may wish to move the legend to a different place. Pie charts allow moving of

individual wedges of the pie (in addition to the choice of “exploding” the entire pie).

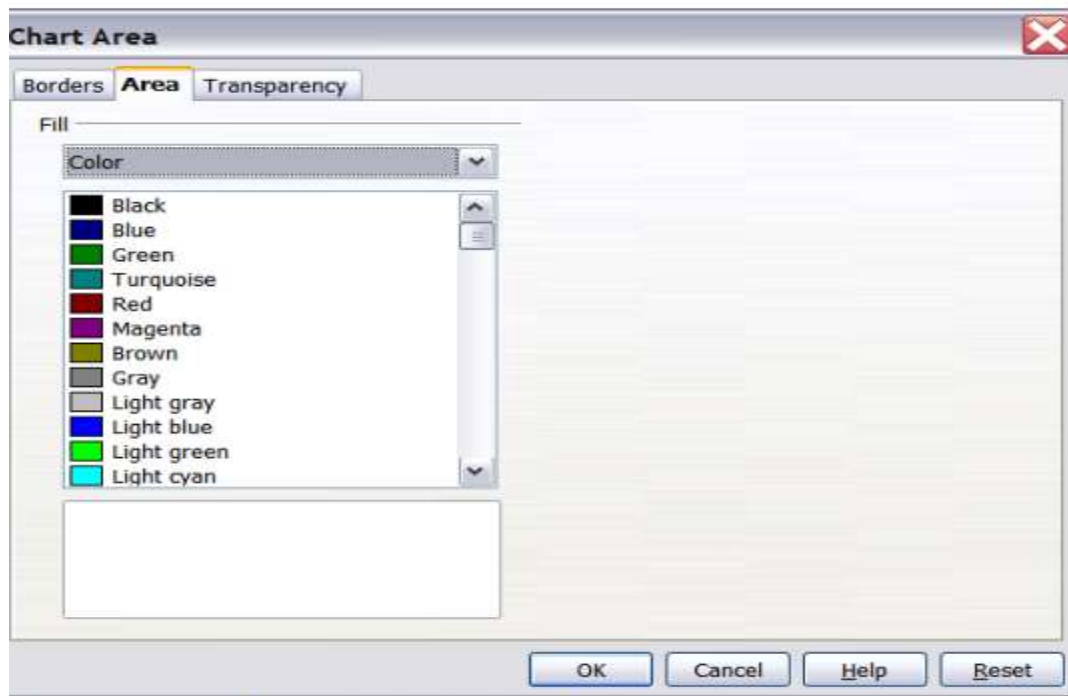
- **Inserting:**
  - ✓ Double-click the chart so that it is enclosed by a gray border.
  - ✓ Click any of the elements—the title, the legend, or the chart graphic—to select it. Green resizing handles appear.
  - ✓ Move the pointer over the selected element. When it changes shape, click and drag to move the element.
  - ✓ Release the mouse button when the element is in the desired position.

**Note:** If your graphic is 3D, round red handles appear which control the three-dimensional angle of the graphic. You cannot resize or reposition the graphic while the round red handles are showing. With the round red handles showing, Shift + Click to get the green resizing handles. You can now resize and reposition your 3D chart graphic. See the following tip.

**Tip:** You can resize the chart graphic using its green resizing handles (Shift + Click, then drag a corner handle to maintain the proportions). However, you cannot resize the title or the key.

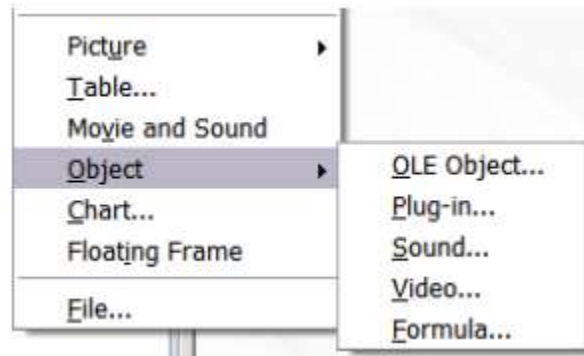
### 5.3. Steps to Changing the chart area background:

- ✓ The chart area is the area surrounding the chart graphic, including the (optional) main title and key.
- ✓ Double-click the chart so that it is enclosed by a gray border.
- ✓ Select Format > Chart Area. The Chart Area window appears. See Figure
- ✓ Choose the desired format settings.



**Figure 80: Chart Area dialog box**

**Inserting other objects:** Impress offers the capability of inserting in a slide various types' of objects such as music or video clips, Writer documents, Math formulas, generic OLE objects and so on. A typical presentation may contain movie clips, sound clips, OLE objects and formulas; other objects are less frequently used since they do not appear during a slide show. This section covers the part of the Insert menu shown in Figure 7:



**Figure 81: Part of the Insert menu**

**Movies and sound:** To insert a movie clip or a sound into a presentation, select Insert > Movie and Sound. Select the media file to insert from the dialog box, to place the object on the slide. To insert media clips directly from the Gallery:

- ✓ If not already open, open the Gallery by selecting Tools >Gallery.
- ✓ Browse to the Theme containing media files (for example the Sounds theme).
- ✓ Click on the movie or sound to be inserted and drag it into the slide area.

The Media Playback toolbar (Figure 8) is automatically opened (by default, at the bottom of the screen, just above the Drawing toolbar; it can also be made floating). You can preview the media object as well as resize it. If the toolbar does not open, select View > Media Playback.

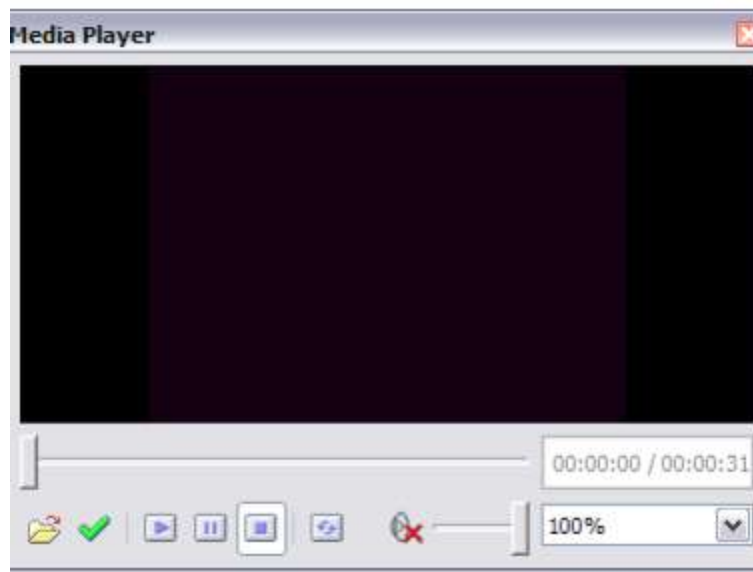
**The media playback toolbar (movie clip)** The Media Playback toolbar contains the following tools:

- ✓ Add button: opens a dialog box where you can select the media file to be inserted.
- ✓ Play, Pause, Stop buttons: control the media playback.
- ✓ Repeat button: if pressed, the media will restart when finished.
- ✓ Playback slider: selects the position within the media clip.
- ✓ Timer: displays the current position of the media clip.
- ✓ Mute Button: when selected, the sound will be suppressed.
- ✓ Volume Slider: adjusts the volume of the media clip.
- ✓ Scaling drop-down menu: (only available for movies) allows

**Scaling of the movie clip.** The movie will start playing as soon as the slide is shown during the presentation.

**Note:** that Impress will only link the media clip, therefore when the presentation is moved to a different computer, the link will most likely be broken and as a consequence the media clip will not play. An easy workaround that prevents this from happening is the following:

- ✓ Place the media file to be included in the presentation in the same folder where the presentation is stored.2) Insert the media file in the presentation.
- ✓ When sending the presentation to a different computer, send also the media file and place both files in the same folder on the target computer. Impress offers the possibility to preview the media clips that are to be inserted by means of the provided media player. To open it select Tools > Media Player. The media player is shown in Figure 16. Its toolbar is the same as that of the Media Playback toolbar described above.



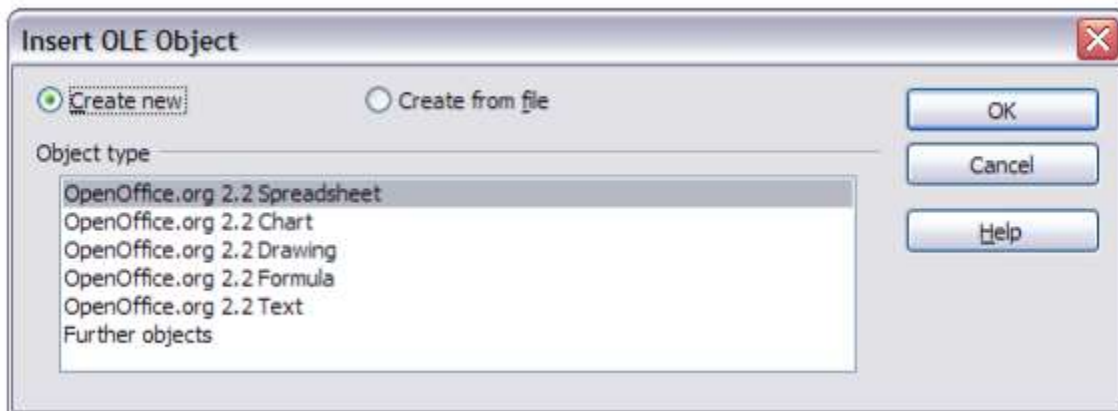
**Figure 82: The embedded media player**

**OLE objects:** Use an OLE (Object Linking and Embedding) object to insert in a presentation either a new document or an existing one. Embedding inserts a copy of the object and details of the source program in the

Target document that is the program which is associated to the file type in the operating system. The major benefit of an OLE object is that it is quick and easy to edit the contents just by double-clicking on it. You can also insert a link to the object that will appear as an icon rather than an area showing the contents itself. To create and insert a new OLE object:

- ✓ Select Insert > Object > OLE object from the main menu. This opens the dialog box shown in Figure 10:

### Inserting other objects



**Figure 83: Insert OLE Object dialog box**

- ✓ Select Create new and select the object type among the available Options

**Note** “Further objects” is only available under a Windows operating system. It does not appear in the list under any other system.

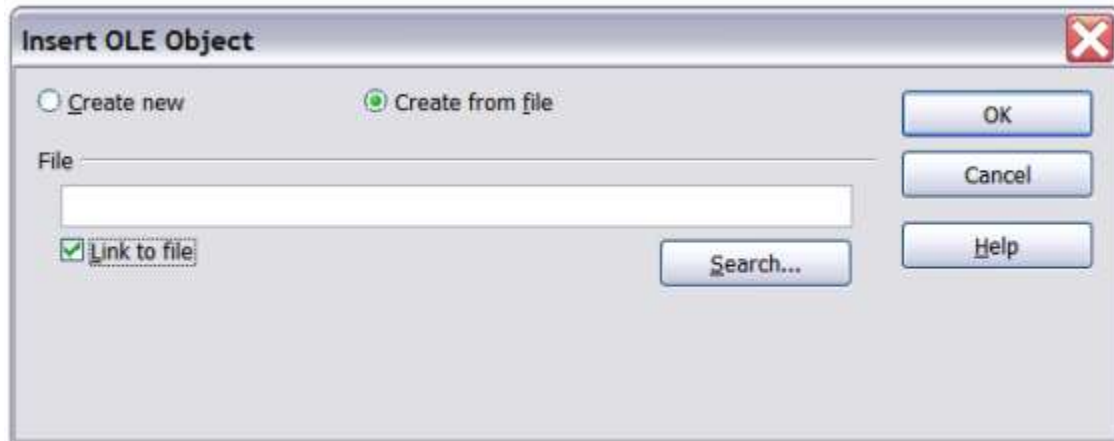
- ✓ Click OK. An empty container is placed in the slide.
- ✓ Double-click on the OLE object to enter the edit mode of the

**Object.** The application devoted to handling that type of file will open the object.

**Note:** If the object inserted is handled by OpenOffice.org, then the transition to the program to manipulate the object will be seamless; in other cases the object opens in a new window and an option in the File menu becomes available to update the object you inserted.

**To insert an existing object:**

- ✓ Select Insert > Object > OLE object from the main menu.
- ✓ In the Insert OLE Object dialog box (Figure 10), select Create from file. The dialog box changes to look like Figure 11

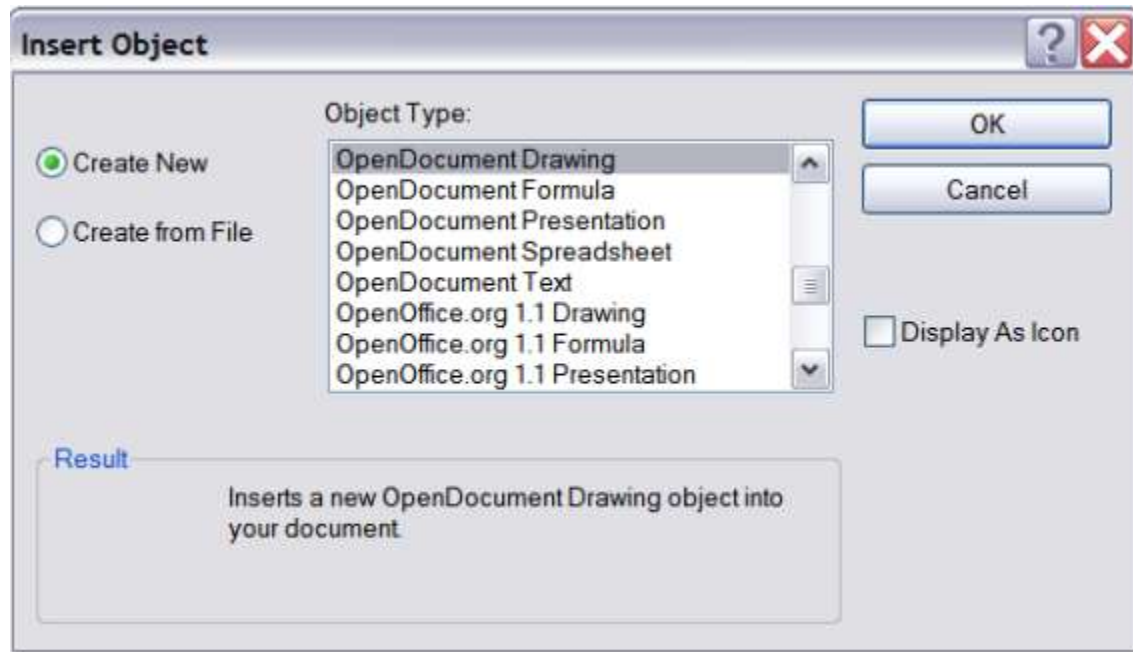


**Figure 84: Inserting an object as a link**

- ✓ To insert the object as a link, select the Link to file checkbox. Otherwise, the object will be embedded.
- ✓ Click Search, select the required file in the file picker window, then click Open. A section of the inserted file is shown on the slide.

**Other OLE objects:** Under Windows, the Insert OLE Object dialog box has an extra entry, Further objects, as shown in Figure 10.

- ✓ Double-click on the entry Further objects to open the dialog box



**Figure 85: Advanced menu to insert an OLE object under**

## Windows

- ✓ Select Create New to insert a new object of the type selected in the Object Type list, or select Create from File to create a new object from a file.
  - ✓ If you choose Create from File, the dialog box shown in Figure 13:opens. Click Browse and choose the file to insert. The inserted file object is editable by the Windows program that created it. If instead of inserting an object, you want to insert a link to an object, select the Display As Icon checkbox.
- Inserting other objects





**Figure 86: Insert object from a file**

**Formulas:** Use Insert > Object > Formula to create a Math object in a slide. When editing a formula, the main menu changes into the Math main menu. Care should be taken about the font sizes used in order to make them comparable to the font size used in the rest of the slide. To change the font attributes of the Math object, select Format > Font Size from the main menu bar. To change the font type, select Format > Fonts from the main menu bar.

Note that unlike in Writer, a formula in Impress is treated as an object; therefore it will not be automatically aligned with the rest of the text. The formula can be however moved around (but not resized) as any other object. Inserting the contents of a file You can insert the contents of a file into a presentation. The types of file accepted are OpenOffice.org Draw file, HTML files or plain text files. Select Insert > File from the main menu to open a file picker window. If there is an internet connection, it is also possible to insert in the file name field a URL. Select the file and click Insert.





<b>Self-Check 5</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

**Say true or false**

1. The default chart includes only two elements.
2. Use Insert > Object > Formula to create a Math object in a slide.
3. A stock chart is a specialized column graph specifically for stocks and shares.

**Note: Satisfactory rating - 3 point Unsatisfactory - below 3 points**

Score = _____
Rating: -----

Name: \_\_\_\_\_

Date\_\_\_\_\_



<b>Operation Sheet -5</b>	<b>Modifying chart using formatting feature</b>
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**Steps to Displaying selected data in a different chart**

**Step 1** – Enter the data in cell

**Step 2** – Highlight the data, including row and column headings

**Step 3** –Click on the **Insert** tab of the ribbon.

**Step 4** – in the Charts section of the ribbon, click on the **Insert Line Chart** icon to Open the drop-down list of available chart and graph type

**Step 5** – Hover your mouse pointer over a chart type to read a description

**Step-6** Click **2D line**.

**Step- 7**The chart will appear on your spreadsheet. Click and hold to move the chart to the right, away from the data table.



# **Solar PV System Installation and Maintenance Level II Learning Guide- 70**

<b>Unit of Competence</b>	<b>Solar PV System Installation and Maintenance</b>
<b>Module Title:</b>	<b>Operate Application Software Packages</b>
<b>LG Code:</b>	<b>EIS PIM2 M12LO6-LG-70</b>
<b>TTLM Code:</b>	<b>EIS PIM2 TTLM 1019v1</b>

## **LO6: Use appropriate word-processing software**

Instruction Sheet	Learning Guide #61
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This learning guide is developed to provide you the necessary information regarding the following content coverage and topics

- Opening data base applications and designing a simple two Table relational database design



- Developing a table with fields and attributes based on user requirements
- Creating a primary key and establishing an index for each table
- Modifying a table layout and field attributes
- Creating relationship between two table
- Adding and modifying data in a table
- Adding and deleting rerecords
- Saving and closing down database

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- Open data base applications and design a simple two Table relational database design
- Develop a table with fields and attributes based on user requirements
- Create a primary key and establish an index for each table
- Modify a table layout and field attributes
- Create relationship between two table
- Add and modify data in a table
- Add and delete rerecords
- Save and close down database

### **Learning Instructions:**

Read the specific objectives of this Learning Guide.

Follow the instructions described below 3 to 6.

Read the information written in the information “Sheet 1, Sheet 2, Sheet 3 and Sheet 4, - -- Sheet 8” in page --2-, -6--, --7- and -8 9,10,11,12.13,14-- respectively.

Accomplish the “Self-check 1, Self-check t 2, Self-check 3 and Self-check ,---” in page -- 5-, ---, --8- and --9- respectively

If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet 1, Operation Sheet 2 and Operation Sheet 3 ” in page ---.

Do the “LAP test” in page – -13.,14—



Instruction sheet -1	Open data base applications and design a simple two Table relational database
----------------------	---

## 1.1. Introduction

There many ways to create database, one commonly used one is With Access, you can build a database without writing code or being a database expert.

Well-designed templates help you quickly build databases. Easily find just the data you want with queries. Instantly create forms for simple data entry. Summarize data in grouped and summary reports. Dozens of Wizards make it easy to get started and get productive.

- **Design a simple two Table relational database**

A relational database organizes data in *tables* (or *relations*). A table is made up of rows and columns. A row is also called a *record* (or *tuple*). A column is also called a *field* (or *attribute*). A database table is similar to a spreadsheet. However, the relationships that can be created among the tables enable a relational database to efficiently store huge amount of data, and effectively retrieve selected data.

A database consisting of independent and unrelated tables serves little purpose (you may consider to use a spreadsheet instead). The power of relational database lies in the relationship that can be defined between tables. The most crucial aspect in

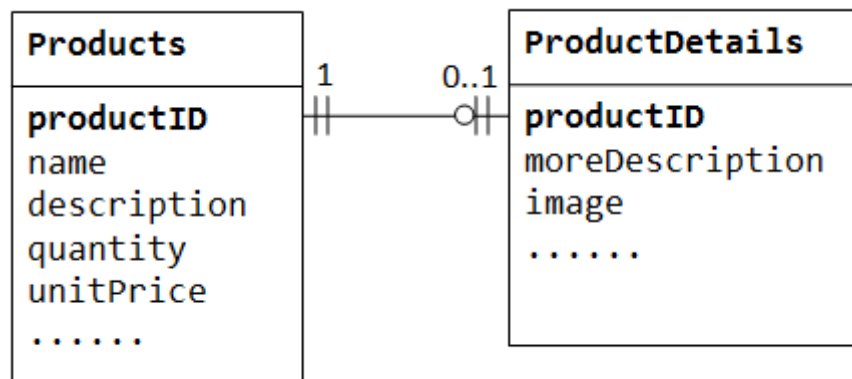
designing a relational database is to identify the relationships among tables. The types of relationship include:

- ✓ one-to-many
- ✓ many-to-many
- ✓ one-to-one

In this training we consider the one-to-one relationship database in a "product sales" database, a product may have optional supplementary information such as image, more Description and comment. Keeping them inside the Products table results in many empty spaces (in those records without these optional data). Furthermore, these large data may degrade the performance of the database.

Instead, we can create another table (say Product Details, Product Lines or Product Extras) to store the optional data. A record will only be created for those products with optional data. The two tables, Products and Product Details, exhibit a one-to-one relationship. That is, for every row in the parent table, there is at most one row (possibly zero) in the child table. The same column product ID should be used as the primary key for both tables.

Some databases limit the number of columns that can be created inside a table. You could use a one-to-one relationship to split the data into two tables. One-to-one relationship is also useful for storing certain sensitive data in a secure table, while the non-sensitive ones in the main table.



**Figure 87: Products**

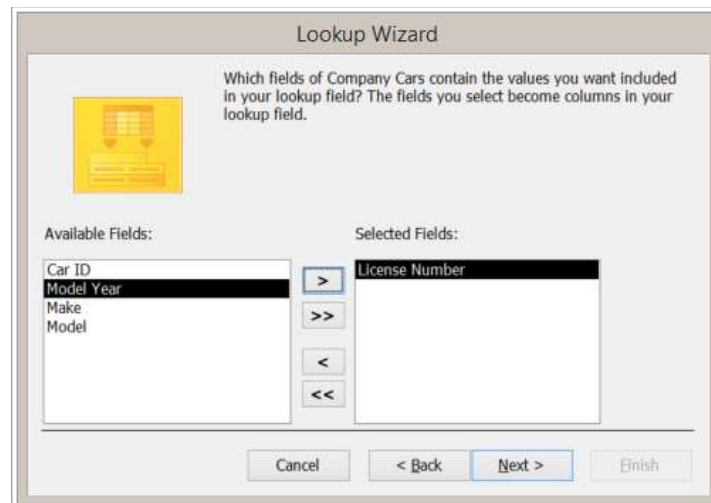
## 1.2. Open and create a data base using Microsoft access

- Open Access. If Access is already open, select **File > New**.

- Select **Blank database**, or select a template.
- Enter a name for the database, select a location, and then select **Create**.
- **Create the one-to-one relationship by adding a lookup field to a table.**

For example, to indicate which car has been assigned to a specific employee, you might add Car ID to the Employees table. Then, to create the relationship between the two fields, use the Lookup Wizard:

- ✓ Open a table.
- ✓ In **Design View**, add a new field, select the **Data Type** value, and then select **Lookup Wizard**.
- ✓ In the wizard, the default is set to look up values from another table, so select **Next**.
- ✓ Select the table that contains the key (usually a primary key) that you want to include in this table, and then select **Next**. In our example, you'd select the Company Cars table.
- ✓ In the **Selected Fields** list, add the field that contains the key you want to use. Select **Next**.



**Figure 88: Lookup Wizard**

1. Set a sort order and, if you prefer, change the width of the field.
2. On the final screen, clear the **Enable Data Integrity** check box and then select **Finish**.



Self-Check -1	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page: 3 points each

1. In order to design a database, one need to be \_\_\_\_\_
  - A. An expert in programming
  - B. Database expert
  - C. Anyone is using database applications
  - D. None of the above.
2. Well-designed \_\_\_\_\_ help you quickly build databases
  - A. Template
  - B. Database
  - C. Table
  - D. None of the above
3. A relational database organizes data in \_\_\_\_\_
  - A. Tables
  - B. Relations
  - C. A & B
  - D. None
4. In database, the types of relationship include:
  - A. one-to-many
  - B. many-to-many
  - C. one-to-one
  - D. All of the above
5. A database consisting of independent and unrelated tables can still be created using a database application
  - A. True
  - B. False
6. A row is also called a *field*
  - A. True
  - B. False
7. One of the main advantages of a One-to-one relationship is also useful for storing certain sensitive data in the main table.





A. True

B. False

*Note:* **Satisfactory rating – 4.5 points**

**Unsatisfactory - below 4.5 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions

### Answer Sheet

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Operation Sheet-1	Design a simple two Table relational database (Create a one-to-one relationship step)
-------------------	---

**Open and create a data base using Microsoft access**

**Step 1:** Open Microsoft Access

**Step2.** Select a blank database

**Step3.** Create

**Create the one-to-one relationship by adding a lookup field to a table.**

**Step 1:** Open the table

**Step 2:** Add a new view in a design view

**Step3:** Select next from a popup wizard table



**Step 4: Select the table that contains the primary key**

**Step 5: Select Fields**

**Step 6: Set a sort order**

**Step 7. Clear “Enable Data Integrity” check box and then select **Finish**.**

<b>LAP Test</b>	<b>Practical Demonstration</b>
-----------------	--------------------------------

**Name**\_\_\_\_\_ **Date**\_\_\_\_\_  
**Time Started**\_\_\_\_\_ **Time Finished**

**Instruction: Given Templates, Tools and Materials, you are required to perform the following tasks within \_\_\_\_\_ hours**

Task-1 Open Database applications, Access

Task-2 Create a blank database

Task-3 Design a one to one relationship table consisting of Teacher & Student database



Information Sheet-2	Developing a table with fields and attributes based on user requirements
---------------------	--

### 1.1. Introduction:

When you create an Access database, you store your data in tables—subject-based lists that contain rows and columns. For instance, you can create a Contacts table to store a list of names, addresses, and telephone numbers, or a Products table to store information about products.

- One can create a table by creating a new database,
  - ✓ by inserting a table into an existing database, or
  - ✓ by importing or linking to a table from another data source — such as a Microsoft Excel workbook, a Microsoft Word document, a text file, or another database.

When you create a new, blank database, a new, empty table is automatically inserted for you. You can then enter data in the table to start defining your fields.

- **Create a new table in a new database**
  - ✓ Click File > New, and then select Blank desktop database.
  - ✓ In the File Name box, type a file name for the new database.
  - ✓ To browse to a different location and save the database, click the folder icon.
  - ✓ Click Create.



The new database opens, and a new table named Table1 is created and opens in Datasheet view.

### 1.2. Set a table's properties

In addition to setting properties fields, you can also set properties/attributes that apply to an entire table or to entire records.

- ✓ Select the table whose properties you want to set.
- ✓ On the Home tab, in the Views group, click View, and then click Design View.
- ✓ On the Design tab, in the Show/Hide group, click Property Sheet.



**Figure 89: table property sheet is shown.**

1. On the property sheet, click the **General** tab.
2. Click the box to the left of the property that you want to set, and then enter a setting for the property. Don't forget to Press CTRL+S to save your changes.



<b>Self-Check -2</b>	<b>Choose the best answer</b>
----------------------	-------------------------------

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

**Choose the best answer**

2. When one creates an Access database, data are stored \_\_\_\_\_
- A. Tables
  - B. Memory
  - C. A & B
  - D. None
3. One can create a table by creating a \_\_\_\_\_,
- A. new database
  - B. by inserting a table into an existing database, or
  - C. by importing or linking to a table from another data source
  - D. All of the above
4. When one creates a new, blank database, a new, empty table is automatically inserted
- A. True
  - B. False

**Note: Satisfactory rating - 2 points**

**Unsatisfactory - below 2 points**

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Short Answer Questions**

<b>Information Sheet-3</b>	Create a primary key and establish an index for each table
----------------------------	--

**3.1. INTRODCUTION:**

A primary key is a special relational database table column (or combination of columns) designated to uniquely identify all table records.



A primary key's main features are:

- It must contain a unique value for each row of data.
- It cannot contain null values.

A primary key is either an existing table column or a column that is specifically generated by the database according to a defined sequence

When you create a new table in Datasheet view, Access automatically creates a primary key for you and assigns it a field name of ID and the AutoNumber data type.

In Design view, you can change or remove the primary key, or set the primary key for a table that doesn't already have one.

### **3.2. Determine which fields to use as a primary key**

Sometimes, you might already have data that you want to use as a primary key. For example, you may have existing ID numbers for your employees. If you create a table to track employee information, you might decide to use the existing employee ID as the primary key for the table. Or, perhaps employee ID is only unique in combination with department ID, requiring that you use both fields together as the primary key. A good candidate for the primary key has the following characteristics:

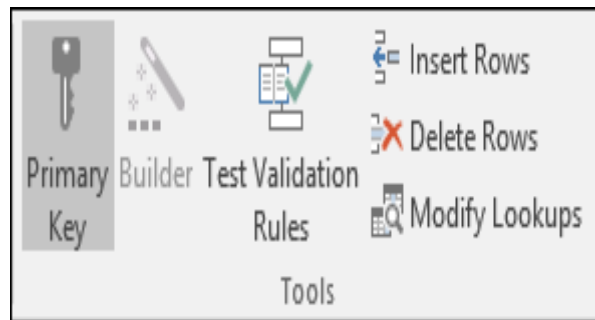
- Each record has a unique value for the field or combination of fields.
- The field or combination of fields is never empty or null — there is always a value.
- The values do not change.

If no suitable data exists to use as a primary key, you can create a new field to use as a primary key. When you create a new field to use as a primary key, set the field's data type to AutoNumber to help make sure that it meets the three characteristics in the preceding list

### **3.3. Set or change the primary key**

- Select the table whose primary key you want to set or change.
- On the Home tab, in the Views group, click View, and then click Design View.
- In the table design grid, select the field or fields that you want to use as the primary key.

- To select one field, click the row selector for the field that you want.
- To select more than one field, hold down CTRL, and then click the row selector for each field.
- On the Design tab, in the Tools group, click Primary Key.



**Figure 90: Tools**

A key indicator appears to the left of the field or fields that you specify as the primary key.

- **Remove the primary key**

- ✓ Select the table whose primary key you want to remove.
- ✓ On the **Home** tab, in the **Views** group, click **View**, and then click **Design View**.
- ✓ Click the row selector for the current primary key. If the primary key consists of multiple fields, hold down CTRL, and then click the row selector for each field.
- ✓ On the **Design** tab, in the **Tools** group, click **Primary Key**.

The key indicator is removed from the field or fields that you previously specified as the primary key. When you save a new table without setting a primary key, Access prompts you to create a new field for the primary key. If you click **Yes**, Access creates an ID field that uses the AutoNumber data type to provide a unique value for each record. If your table already includes an AutoNumber field, Access uses it as the primary key. If you click **No**, Access does not add a field, and no primary key is set.



<b>Self-Check -3</b>	<b>Choose the best answer</b>
----------------------	-------------------------------

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. A primary key is \_\_\_\_\_.
  - A. A special relational database table column
  - B. Designated to uniquely identify all table records
  - C. A & B
  - D. None of the above
2. A primary key's main features are \_\_\_\_\_.
  - A. It must contain a unique value for each row of data.
  - B. It cannot contain null values.
  - C. A & B
  - D. All of the above
3. When you create a new table in Datasheet view, Access automatically creates a primary key for you and assigns it a field name of ID and the AutoNumber data type.
  - A. True
  - B. False
4. One of the following could be a good candidate for the primary key
  - A. Each record has a unique value for the field or combination of fields.
  - B. The field or combination of fields is never empty or null — there is always a value.
  - C. The values do not change.
  - D. All of the above





5. If no suitable data exists to use as a primary key, one can create a new field to use as a primary key

A. True

B. False

**Note: Satisfactory rating - 3 points**

**Unsatisfactory - below 3 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions

<b>Information Sheet-4</b>	Modify a table layout and field attributes
----------------------------	--

#### 4.1. Introduction:-

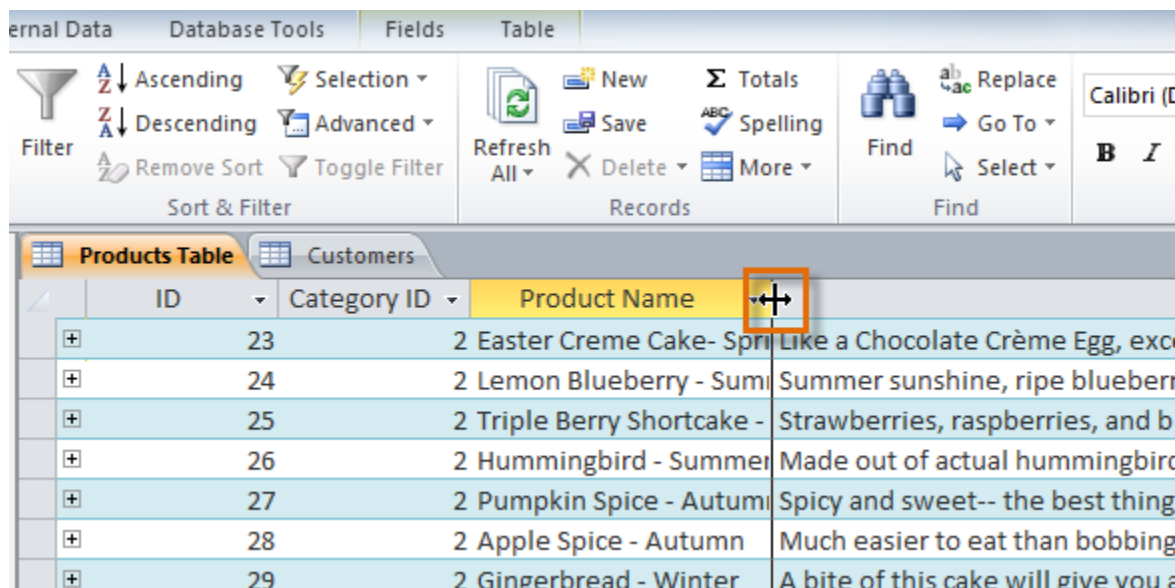
After working with your database, you might find that you need to make some changes to the tables that store your data. Access makes it easy to modify your tables to suit your database's needs. Access offers several ways to modify the appearance of tables. These changes aren't just about making your table look nice; they can make the table easier to read too.

- **Resizing fields and rows**

If your fields and rows are too small or large for the data contained with them, you can always **resize** them so all of the text is displayed.

*To resize a field:*

1. Place your cursor over the **right gridline** in the **field title**. Your mouse will become a **double arrow**.



**Figure 91: Guide Line**

2. **Click and drag** the gridline to the right to increase the field width or to the left to decrease the field width.
3. **Release** the mouse. The field width will be changed.

**To resize a row:**

1. Place your cursor over the **bottom gridline** in the **gray area** to the left of the row. Your mouse will become a **double arrow**.

ID	Product Name	Description
20	Italian Rum	Try as we might, it's impossible to get drunk from our Ita
21	Cheesecake	Moist, rich and dreamily creamy. Every biteful is sinfully
22	Cheesecake, strawberry	Our NY-style classic, but now you can count it as a fruit s
23	Easter Creme Cake- Spring	Like a Chocolate Crème Egg, except a three layer cake. T
24	Lemon Blueberry - Summer	Summer sunshine, ripe blueberries and sugary lemonad
25	Triple Berry Shortcake - Summer	Strawberries, raspberries, and blueberries. May turn yo

**Figure 92: Bottom Guide Line**

- ✓ **Click and drag** the gridline downward to increase the row height or upward to decrease the row height.
- ✓ **Release** the mouse. The row height will be changed.

ID	Product Name	Description
20	Italian Rum	Try as we might, it's impossible to get drunk from our Italian Rum cake. So go ahead and eat the whole thing.
21	Cheesecake	Moist, rich and dreamily creamy. Every biteful is sinfully delicious.
22	Cheesecake, strawberry	Our NY-style classic, but now you can count it as a fruit serving.
23	Easter Creme Cake- Spring	Like a Chocolate Crème Egg, except a three layer cake. Topped with icing bunnies and marshmallow chicks.
24	Lemon Blueberry - Summer	Summer sunshine, ripe blueberries and sugary lemonade. Takes you back to the good ol' days.
25	Triple Berry Shortcake - Summer	Strawberries, raspberries, and blueberries. May turn your lips and teeth purple, but probably worth it.

**Figure 93: Product Table**

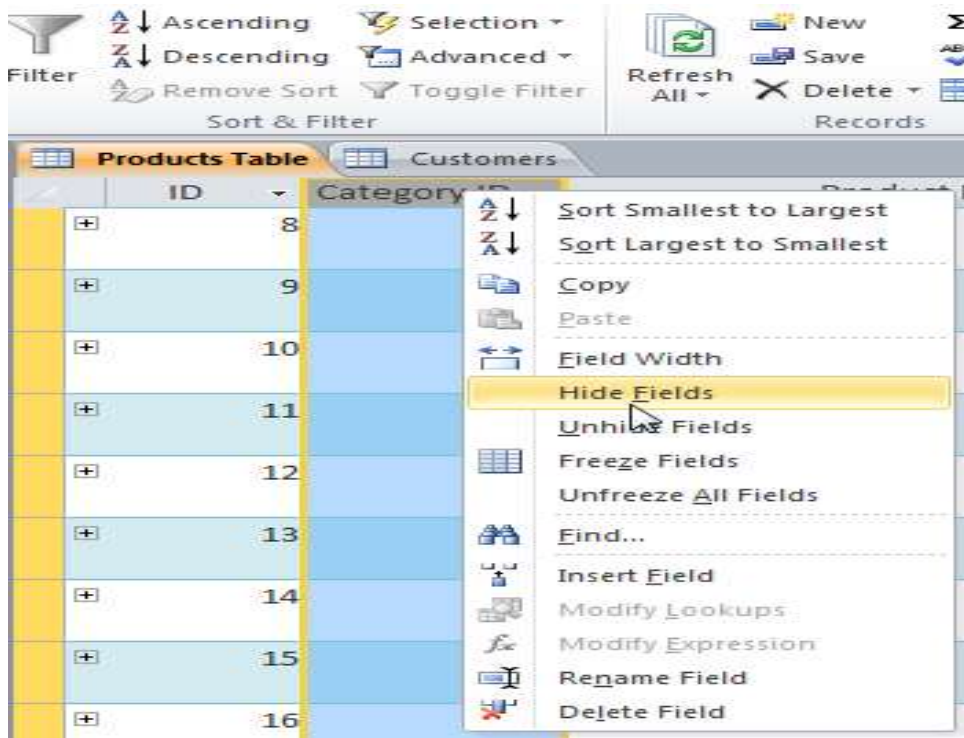
- **Hiding fields**

If you have a field you don't plan on editing or don't want other people to edit, you can **hide** it. A hidden field is invisible but is still part of your database. Data within

a hidden field can still be accessed from forms, queries, reports, and any related tables.

#### To hide a field:

- Right-click the **field title**.
- From the drop-down menu, select **Hide Fields**.



**Figure 94: Hide fields**

#### The field will be hidden.

If you decide you would like the field to be visible again, you can unhide it. Simply right-click any field title, then select Unhide Fields. In the dialog box, click the check boxes of any fields you would like to be visible again, and then click Close.

## 4.2. Table formatting options

- **Alternating row color**

By default, the background of every other row in an Access table is a few shades darker than the background of the rest of the table. This darker **alternate row**

**color** makes your table easier to read by offering a **visual distinction** between each record and the records directly above and below it.

Employee Database Navigation				
Customers		Products Table		
ID	Category ID	Product Name	Description	
8	2	Fudge Chocolate	So rich and heavy with chocolate, you'll need some	
9	2	Fudge Marble	The cake that dares ask the question: what if marb	
10	2	French Vanilla	Oo la la! Some people might say this cake has a cer	
11	2	Strawberry Swirl	A dizzying swirl of strawberries and crème. Hold o	
12	2	Cookies n' Cream	Like dipping oreos and milk, but a cake, and not at	
13	2	Lemon	A simple classic-- sweet and sour.	
14	2	German Chocolate	"Chocolate" in German is "schokolade." You don't l	
15	2	Red Velvet	Your grandma's favorite cake, topped with rich but	
16	2	Carrot Cake	Orange and spicy. Ask your doctor if you can count	

**Figure 95: Employee data base Navigation**

- ✓ To change the alternate row color:
- ✓ Select the Home tab, and locate the Text Formatting group.
- ✓ Click the Alternate Row Color drop-down arrow.



- ✓ Select a color from the drop-down menu, or select No Color to remove the alternate row color.

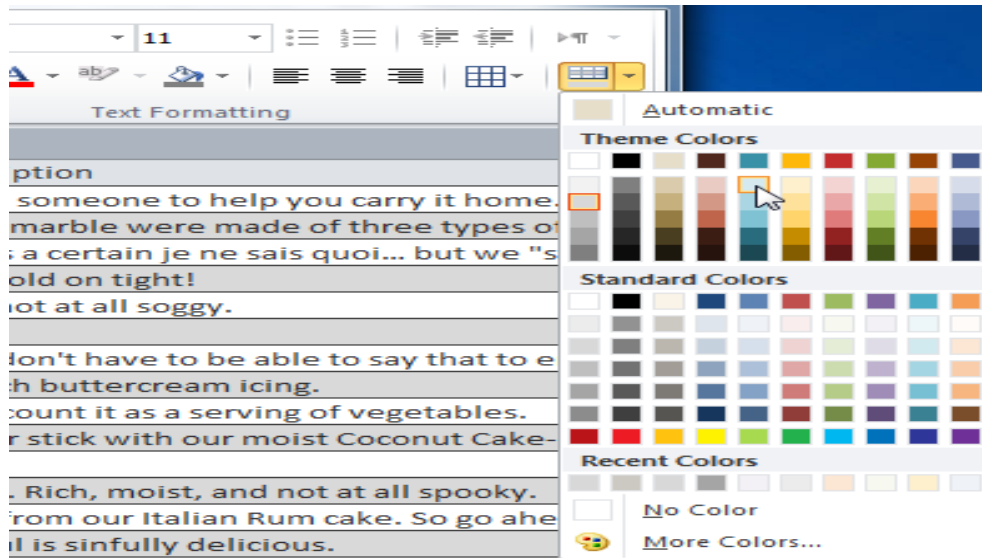


Figure 96: Automatic standard Colors







you might have a Product ID field in a Products table and in an Order Details table. Each record in the Order Details table has a Product ID that corresponds to a record in the Products table with the same Product ID.

When you use related tables in a query, the relationship lets Access determine which records from each table to combine in the result set. A relationship can also help prevent missing data, by keeping deleted data from getting out of synch, and this is called referential integrity.

In an Access database, you create a table relationship using one of the following methods:

- ✓ In the Relationships window, add the tables that you want to relate, and then drag the field to relate them from one table to the other table.
- ✓ Drag a field on to a table datasheet from the Field List pane.

When you create a relationship between tables, the common fields are not required to have the same names, although it is often the case that they do. The common fields must have the same data type. If the primary key field is an AutoNumber field, however, the foreign key field can also be a Number field if the Field Size property of both fields is the same. For example, you can match an AutoNumber field and a Number field if the Field Size property of both fields is Long Integer. When both common fields are Number fields, they must have the same Field Size property setting.

- **Create a table relationship by using the Relationships window**

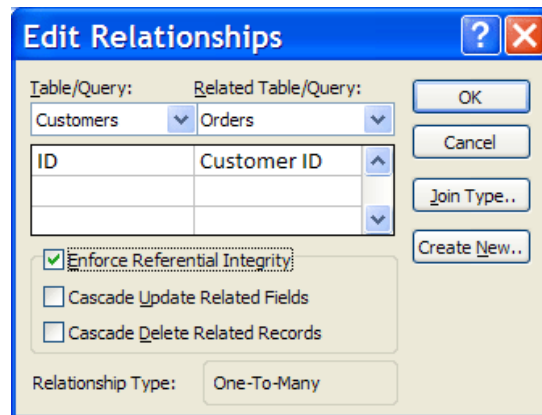
- ✓ On the Database Tools tab, in the Relationships group, click Relationships.
- ✓ If you have not yet defined any relationships, the Show Table dialog box automatically appears. If it does not appear, on the Design tab, in the Relationships group, click Show Table.

The Show Table dialog box displays all of the tables and queries in the



database. To see only tables, click Tables. To see only queries, click Queries. To see both, click Both.

- ✓ Select one or more tables or queries and then click Add. After you have finished adding tables and queries to the Relationships document tab, click Close.
- ✓ Drag a field (typically the primary key) from one table to the common field (the foreign key) in the other table. To drag multiple fields, press the CTRL key, click each field, and then drag them. The Edit Relationships dialog box appears.



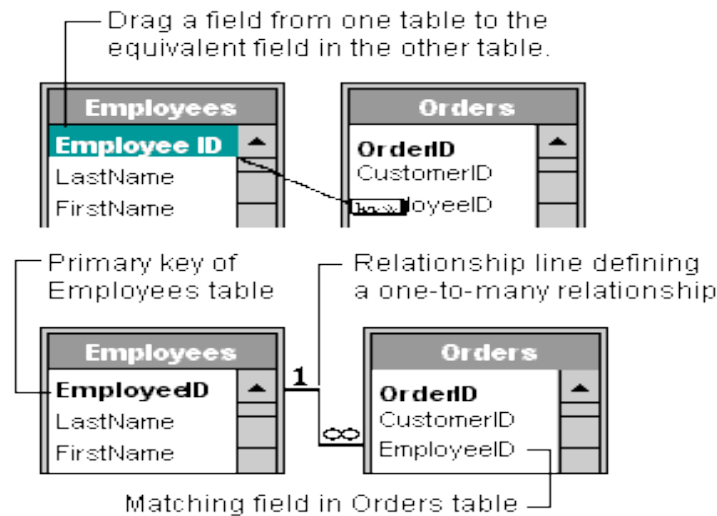
**Figure 97: Edit relation ship**

- Verify that the field names shown are the common fields for the relationship. If a field name is incorrect, click on the field name and select the appropriate field from the list.

To enforce referential integrity for this relationship, select the Enforce Referential Integrity check box. For more information about referential integrity, see the section Click Create.

Access draws a relationship line between the two tables. If you selected the Enforce Referential Integrity check box, the line appears thicker at each end. In addition, again only if you selected the Enforce Referential Integrity check box, the number 1 appears over the thick portion on one side of the relationship line, and the infinity

symbol ( $\infty$ ) appears over the thick portion on the on the other side of the line, as shown in the following figure.



**Figure 98: Drags a field form**

- **To create a one-to-one relationship** both of the common fields (typically the primary key and foreign key fields) must have a unique index. This means that the **Indexed** property for these fields should be set to **yes (No Duplicates)**. If both fields have a unique index, Access creates a one-to-one relationship.
- **To create a one-to-many relationship** The field on the one side (typically the primary key) of the relationship must have a unique index. This means that the **Indexed** property for this field should be set to **Yes (No Duplicates)**. The field on the many side should *not* have a unique index. It can have an index, but it must allow duplicates. This means that the **Indexed** property for this field should be set to either **No** or **Yes (Duplicates OK)**. When one field has a unique index, and the other does not, Access creates a one-to-many relationship.

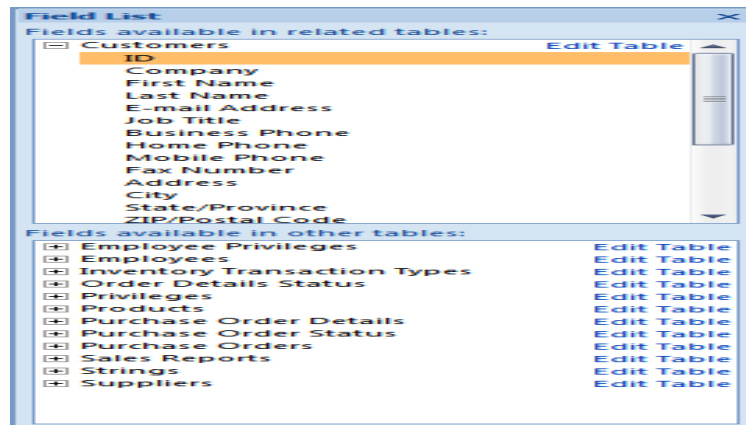
## 5.2. Create a table relationship by using the Field List pane to add a field

You can add a field to an existing table that is open in Datasheet view by dragging it from the **Field List** pane. The **Field List** pane shows fields available in related tables and also fields available in other tables in the database.

When you drag a field from an "other" (unrelated) table and then complete the Lookup Wizard, a new one-to-many relationship is automatically created between the table in the **Field List** pane and the table to which you dragged the field. This relationship, created by Access, does not enforce referential integrity by default. To enforce referential integrity, you must edit the relationship.

- **Open a table in Datasheet view**

- ✓ In the Navigation Pane, double-click the table.
- ✓ Open the Field List pane
- ✓ Press ALT+F8. The Field List pane appears.



**Figure 99: Field List**

The Field List pane shows all of the other tables in your database, grouped into categories. When you work with a table in Datasheet view, Access displays fields in either of two categories in the Field List pane: Fields available in related tables and Fields available in other tables. The first category lists all of the tables that have a relationship with the table with which you are currently working. The second category lists all of the tables with which your table does not have a relationship.

- ✓ In the Field List pane, when you click the plus sign (+) next to a table name, you see a list of all the fields available in that table. To add a field to your table, drag the field that you want from the Field List pane to the table in Datasheet view.
- ✓ Add a field and create a relationship from the Field List pane
- ✓ With the table open in Datasheet view, press ALT+F8. The Field List pane appears.



- ✓ Under Fields available in other tables, click the plus sign (+) next to a table name to display the list of fields in that table.
  - ✓ Drag the field that you want from the Field List pane to the table that is open in Datasheet view.
  - ✓ When the insertion line appears, drop the field into position.
- The **Lookup Wizard** starts.
    - ✓ Follow the instructions to complete the **Lookup Wizard**.  
The field appears in the table in Datasheet view.  
When you drag a field from an "other" (unrelated) table and then complete the Lookup Wizard, a new one-to-many relationship is automatically created between the table in the **Field List** and the table to which you dragged the field. This relationship, created by Access, does not enforce referential integrity by default. To enforce referential integrity, you must edit the relationship.

<b>Self-Check -5</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

**Choose the best answer**

1. In an Access database, one can create a table relationship using \_\_\_\_\_
  - A. Relationships window, add the tables that you want to relate, and then drag the field to relate them from one table to the other table.
  - B. Drag a field on to a table datasheet from the **Field List** pane.
  - C. A & B
  - D. None of the above
2. When you create a relationship between tables, the common fields are not required to have the same names forms,





- ✓ In a table, to move to the next cell in a column, use the Up or Down arrow keys, or click the cell you want.
- ✓ When you view another record or close the table or form, Access saves the new record that you added. To explicitly save changes to the current record, press Shift+ Enter.

- **Find a record**

You must first find a record before you can edit or delete it. In a form or datasheet that contains only a small number of records, you can use the record navigation buttons to navigate through the records until you find the one you want. When there are many records, you can use the **Find and Replace** dialog box and filter for the record.

- **Use the record navigation buttons**

You can navigate between records by using the navigation buttons.



- ✓ **Arrow buttons** Click to conveniently navigate to the first, previous, next, or last record.
- ✓ **New (blank) record** Click to add a record.
- ✓ **Current Record** Type a record number and then press ENTER to navigate to that record. The record number is counted sequentially, from the beginning of the form or datasheet — it does not correspond to any field value.
- ✓ **Filter** The filter indicator button shows whether a filter has been applied. Click to remove or reapply the filter.
- ✓ **Search** Enter text in the **Search** box. The first matching value is highlighted in real time as you enter each character.

## 6.2. Use the Find and Replace dialog box



The Find and Replace dialog box provides another way to change small amounts of data in less time and with less effort. You can use the Find feature in the Find and Replace dialog box to locate a matching record. When you find a matching record, that record becomes the current record, and you can then edit or delete it.

- ✓ Click the field that you want to search.
- ✓ On the Home tab, in the Find group, click Find, or press CTRL+F.
- ✓ The Find and Replace dialog box appears.
- ✓ Click the Find tab.
- ✓ In the Find What box, type the value that you want to match.
- ✓ Optionally, use the Look In list to change the field that you want to search, or to search the entire underlying table instead.
- ✓ Optionally, in the Match list, select Any Part of Field. Selecting this option provides the broadest possible search.
- ✓ In the Search list, select All, and then click Find Next.

### 6.3. Apply a filter

You can apply a filter to limit the records that are displayed to those that match your criteria. Applying a filter makes it easier to find the record that you want to edit or delete.

- ✓ Open the table in Datasheet View or form in Form View.
- ✓ To ensure that the table or form is not already filtered, on the Home tab, in the Sort & Filter group, click Advanced, and then click Clear All Filters, or click Filter in the record navigation bar.
- ✓ Navigate to the record that contains the value that you want to use as part of the filter, and then click the field. To filter based on a partial selection, select only the characters that you want.
- ✓ On the Home tab, in the Sort & Filter group, click Selection, or right-click the field and apply a filter.
- ✓ To filter other fields based on a selection, repeat steps 3 and 4.

#### • Edit data in a text box or field

Access provides one text control for use with Short Text and Long Text (also called Memo) fields. Typically, you can tell if the underlying field is short or long text by the size of the control, which usually reflects the size needed for the underlying table field. A Short Text field can store up to 255 characters and a Long Text field can store 64,000 characters.





By design, you cannot edit data from some types of queries. For example, you cannot edit the data returned by a crosstab query, and you cannot edit or remove calculated field's values that a formula calculates as you use your database, but that do not reside in a table.

- ✓ Open the table or query in Datasheet View or form in Form View.
- ✓ Click the field or navigate to the field by using the TAB or arrow keys, and then press F2.
- ✓ In Form view, you can click a field's label to select the field. In Datasheet view, you can select a field by clicking near the left border of the field when the mouse pointer becomes a plus (+) sign.
- ✓ Place the cursor where you want to enter information.
- ✓ Enter or update the text that you want to insert. If you make a typing mistake, press BACKSPACE.
- ✓ If a field has an input mask, enter the data according to the format.
- ✓ To be more productive, learn the following shortcut keys:
  - To insert a new line in a text field, press Ctrl+Enter.
  - To insert the default value for a field, press Ctrl+Alt+Spacebar.
  - To insert the current date in a field, press CTRL+SEMICOLON.
  - To insert the current time, press CTRL+SHIFT+COLON (').
  - To check spelling, press F7.
  - To reuse similar values of a previous record, move to the corresponding field in the previous record, and then press CTRL+' (apostrophe).
- ✓ To explicitly save your changes, press Shift+ Enter.
- ✓ To save the data, on the Home tab, in the Records group, click Save Record, or press Shift+ Enter.
- ✓ You don't have to explicitly save your changes. Access commits them to the table when you move the cursor to a new field in the same row, when you move the pointer to another row, or when you close the form or datasheet.





<b>Self-Check -6</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. The first step in modifying data/record is \_\_\_\_\_
  - A. Know type of data
  - B. Know size of data
  - C. Find a Data/record to be modified
  - D. None of the above
2. To maintain data integrity, the fields in an Access database are set to accept a specific type of data, such as \_\_\_\_\_
  - A. text or
  - B. Numbers.
  - C. A & B



D. None

3. In searching for Data/records of large data, one can use \_\_\_\_\_

A. the record navigation

B. **Find and Replace** dialog box

C. A & B

D. None of the above

4. Applying a filter makes it easier to find the record that you want to modify

A. True

B. False

5. One cannot edit data from some types of queries such as \_\_\_\_\_

A. . The data returned by a crosstab query, and you cannot edit or remove

B. Calculated fields

C. A & B

D. None of the above

**Note: Satisfactory rating - 3 points**

**Unsatisfactory - below 3 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_



<b>Information Sheet-7</b>	<b>Add and delete rerecords</b>
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#### 4.1. Definition of Delete a record

The deletion process is fairly simple, except when the record is related to other data and resides on the "one" side of a one-to-many relationship. To maintain data integrity, by default, Access does not let you to delete related data. For more information, Open the table in Datasheet View or form in Form View.

- ✓ Select the record or records that you want to delete.
- ✓ To select a record, click the record selector next to the record, if the record selector is available.
- ✓ To extend or reduce the selection, drag the record selector (if it is available), or press SHIFT+DOWN ARROW or SHIFT+UP ARROW.
- ✓ Press DELETE, select **Home> Records >Delete**, or press Ctrl+ Minus Sign (-).

**Tip** If you need to delete only some information but not the entire record, select only the data in each field that you want to delete and then press DELETE.

<b>Self-Check -7</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:



1. In deleting data/record that related to other data and resides on the "one" side of a one-to-many relationship is very simple  
A. True B. False
2. To maintain data integrity, by default, Access does not let you to delete related data.  
A. True B. False

**Note: Satisfactory rating - 1 points**

**Unsatisfactory - below 1 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Information Sheet-8**

**Save and close down database**

### 8.1. Introduction

Saving your work in Access is a little different from saving in most Office apps. Changes to data, the primary reason for saving your work in most apps, are automatically saved in Access.

In Access, instead of saving data changes, you save changes to the database design, or you save the whole database, data and all, with a new filename as a backup, or in a different format, such as an earlier Access file format, a database template, or a compiled database (a database where you can't change the design). You can also save individual database objects as new objects.



This topic introduces the various ways you can save your work in Access, and provides links to topics with more details.

- **Save database design elements for reuse**

To reuse a database or a database object, you use the Save As dialog:

- ✓ Open the database or database object.
- ✓ On the File tab, click Save As.
- ✓ Do one of the following steps:
  - ✓ To save a database in a different format, click Save Database As. To save a database object in a different format, click Save Object As.
  - ✓ Click the format you want to use for the new copy.

For more information about making backups, see the article protect your data with backup and restore processes.

Saving a copy of a database or an object is one way to share your desktop data, but there are others. For more information, see the article Ways to share an Access desktop database



Self-Check -8	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

- Saving your work in Access is very similar to saving in most Office apps  
A. True B. False
- Saving your work in Access is a little different from saving in most Office apps  
A. True B. False
- Whenever there is a change in data, the new data must be saved in Access before prompting to the next action.  
A. True B. False
- In Access, instead of saving data changes, you save changes to  
A. the database design, or  
B. you save the whole database,  
C. in a different format, such as an earlier Access file format  
D. All of the above
- To save a database object in a different format, click  
A. Save Object As  
B. Save Database As  
C. A & B  
D. None of the above

**Note: Satisfactory rating - 3 points**

**Unsatisfactory - below 3 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_



	<b>List of Reference Materials</b>	
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- "Database design basics (Microsoft Access 2007)", available at <http://office.microsoft.com/en-us/access/HA012242471033.aspx>.
- Paul Litwin, "Fundamentals of Relational Database Design", available at <http://www.deeptraining.com/litwin/dbdesign/FundamentalsOfRelationalDatabaseDesign.aspx>.
- Codd E. F., "A Relational Model of Data for Large Shared Data Banks", Communications of the ACM, vol. 13, issue 6, pp. 377–387, June 1970.
- Access online help (2007-2016 file format)



# **Solar PV System Installation and Maintenance Level-II**

## **Learning Guide -71**

<b>Unit of Competence</b>	<b>Solve Basic DC &amp; AC Circuit Problems in Photovoltaic Energy System</b>
<b>Module Title:</b>	<b>Creating reports and forms</b>
<b>LG Code:</b>	<b>EIS PIM2 M11 LO3-LG-62</b>
<b>TTLM Code:</b>	<b>EIS PIM2 TTLM 0919v1</b>

**LO7: Create reports and forms**





Instruction Sheet	Learning Guide
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This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- Designing Reports to present data in a logical sequence
- Modifying reports to include or exclude additional requirements
- Distributing Reports to appropriate person in a suitable format
- Creating a simple form using a wizard
- Opening & Modifying existing database records using a simple form
- Rearranging **Objects** within the form are to accommodate information requirements

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to:

- Design reports to present data in a logical sequence
- Modify reports to include or exclude additional requirements
- Distribute reports to appropriate person in a suitable format
- Using a wizard to create a simple form
- Open & Modify existing database records using a simple form
- Rearrange Objects within the form are to accommodate information requirements

#### **Learning Instructions:**

7. Read the specific objectives of this Learning Guide.
8. Follow the instructions described below 3 to 6.
9. Read the information written in the information “Sheet1, Sheet 2, Sheet 3, Sheet 4, Sheet 5 and Sheet 6”.
10. Accomplish the “Self-check 1,
11. If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet 1, in page -4.
12. Do the “LAP test” in page –5 (if you are ready).

<b>Information Sheet-1</b>	Design Reports to present data in a logical sequence
----------------------------	--

### **1.1. Introduction**

Reports are a great way to organize and present data from available sources (Database) sources. Reports enable you to format your data in an attractive and informative layout for printing or viewing on screen. Reports are often used to present a big-picture overview, highlighting main facts and trends. The data in a



preview or in a printed report is static. Reports merely present the data; they do not alter the underlying data in the tables. Each time a report is opened.

Reports are created from one or more tables or queries. To use several tables, you would first create a query to retrieve data from those tables. There are three basic ways to create a report: with a single mouse click, with the Report wizard, or in Design view.

More or less it could be nice to consider “A technical report”. Which is a formal report designed to convey technical information or work completion report (in solar PV) in a clear and easily accessible format. It is divided into sections which allow different readers to access different levels of information.

The following example explains the commonly accepted format for a technical report; explains the purposes of the individual sections; and gives hints on how to go about drafting and refining a report in order to produce an accurate, professional document.

- **Title Page:** Must include the title of the report. Reports for assessment, where the word length has been specified, will often also require the summary word count and the main text word count summary a short summary of the whole report including important features, results and conclusions contents Numbers and lists all section and subsection headings with page numbers Introduction States the objectives of the report and comments on the way the topic of the report is to be treated. Leads straight into the report itself.
- **Body:** The sections which make up the body of the report Divided into numbered and headed sections. These sections separate the different main ideas in a logical order
- **Conclusions** A short, logical summing up of the theme(s) developed in the main text



Self-Check -1	Written Test
---------------	--------------

**Directions: 1** chose the correct answer for the following questions and write on the black space.

- \_\_\_\_\_ are a great way to organize and present data from available sources (Database) sources
  - Reports
  - Database
  - Data
  - None
- Technical report may consist the following in a logical sequence\_\_\_\_
  - Title page, Summary, Introduction, Body and Conclusion
  - Summary, Title page, Introduction, Body and Conclusion
  - Introduction, Summary, Title page, Body and Conclusion
  - Body, Introduction, Summary, Title page, and Conclusion
  - Conclusion, Introduction, Summary, Title page, and Body

**Directions: 2 Say True or False**

- Summary is A short, logical summing up of the theme(s) developed in the main text
- Conclusions is A short summary of the whole report including important features, results and conclusions

**Note: Satisfactory rating - 3 and 5 points      Unsatisfactory - below 3 and 5 points**

You can ask you teacher for the copy of the correct answers.



## Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Operation Sheet 1

Designed Reports to present data in a logical sequence

There are many different types of reports, including business, scientific and research reports, but the basic steps for writing them are the same. These are outlined below.

**Step 1:** Decide on the 'Terms of reference'

**Step 2:** Decide on the procedure

**Step 3:** Find the information

**Step 4:** Decide on the structure

**Step 5:** Draft the first part of your report

**Step 6:** Analyze your findings and draw conclusions

**Step 7:** Make recommendations

**Step 8:** Draft the executive summary and table of contents

**Step 9:** Compile a reference list

**Step 10:** Revise your draft report



LAP Test	Practical Demonstration
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Name \_\_\_\_\_ Date \_\_\_\_\_

Time Started \_\_\_\_\_ Time Finished \_\_\_\_\_

**Instruction: Given Templates, Tools and Materials, you are required to perform the following tasks within \_\_\_\_\_ hours**

Task-1 Select a topic in the area of simple PV system (design, completed work, commissioning etc.)

Task-2 writes a technical report as per the information sheet and the operation sheet.

Information Sheet-2	Modify reports to include or exclude additional requirements
---------------------	--

### 1.1. Introduction

In order to write a great report, one need to follow the following few steps

- **Planning the report:** - search for examples and good to tutorials on how to write a good report. There are some excellent textbooks contain advice about the writing process and how to begin to do so. Here is a checklist of the main stages;



- **Collect your information.** Sources include project document, work orders, record of each day incidents etc. Keep an accurate record of all activities on the site
- **Creative phase of planning.** Write down topics and ideas from your task/project qualifying to be reported in random order. Next arrange them into logical groups. Keep note of topics that do not fit into groups in case they come in useful later. Put the groups into a logical sequence which covers the topic of your report.
- **Structuring the report.** Using your logical sequence of grouped ideas, write out a rough outline of the report with headings and subheadings.
- After few getting feedback you can use this as a template for the full Writing the first draft

### 1.2. Who is going to read the report?

In professional contexts, the readers might be managers, clients, project team members. The answer will affect the content and technical level, and is a major consideration in the level of detail required in the introduction.

Begin writing with the main text, not the introduction. Follow your outline in terms of headings and subheadings. Let the ideas flow; do not worry at this stage about style, spelling or word processing. If you get stuck, go back to your outline plan and make more detailed preparatory notes to get the writing flowing again. Make rough sketches of diagrams or graphs. Write the Conclusion next, followed by the Introduction. Do not write the Summary at this stage.

- **Revising the first draft and/or modifying any Report**

This is the stage at which your report will start to take shape as a professional, technical document. In revising what you have drafted or modifying the report you made at earlier time you must bear in mind the following, important principle; The essence of a successful technical report lies in how accurately and concisely it conveys the intended information to the intended readership.



### Self-Check -2

### Written Test

**Directions: 1** chose the correct answer for the following questions and write on the black space.

1. \_\_\_\_\_ is the first step in writing a technical report.  
A. Drafting  
B. Planning  
C. modifying  
D. None
2. In writing the draft of a report \_\_\_\_\_ should be written first  
A. Introduction  
B. Main body of the report  
C. Conclusion  
D. None

**Directions: 2 Say True or False**

1. In writing a report, knowing the reader is very important to decide the width and depth of the report.
2. All reports are written to meet certain goals/purposes.

**Note: Satisfactory rating - 3 and 5 points      Unsatisfactory - below 3 and 5 points**

You can ask you teacher for the copy of the correct answers.

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_



<b>Information Sheet- 3</b>	<b>Distribute reports to appropriate person in a suitable format</b>
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### 3.1. Introductions: The report layout

The appearance of a report is no less important than its content. An attractive, clearly organized report stands a better chance of being read.

- Use a standard, 12pt, font, such as Times New Roman, for the main text.
- Use different font sizes, bold, italic and underline where appropriate but not to excess.
- Too many changes of type style can look very fussy.

NB: - Some institution may have developed their own report template, if that is the case you have to follow strictly the format provided by that institute, organization or Donors.

Example: The Work Completion Report for installation of Solar Roof Top PV System under net metering arrangement

To: \_\_\_\_\_

Subject: Regarding submission of work completion report for installation of Solar Roof Top PV System under net metering arrangement.

Reference: Please refer to our Application Registration No.: \_\_\_\_\_  
dated: \_\_\_\_\_

Enclosed please find herewith the work completion report for installation of Solar Roof Top PV System under Net Metering Arrangement duly filled by the installer/contractor as per specification/instruction of Nigam. The details of equipment and allied material for Solar PV system are as under: -

### 1. Solar PV System Module Detail





Table 6: Module Detail

a	Name of manufacturer with address	
b	Model No.	
c	Capacity of each Module (Wp)	
d	No. of Modules	
e	Total Capacity (kWp)	
f	Any other information	

NB:- It can be done for all other major components



Self-Check -3	Written Test
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**Directions:** chose the correct answer for the following questions and write on the black space.

1. Too many changes of type style can look very \_\_\_\_\_  
A. Attractive  
B. Fussy  
C. A & B  
D. All
2. Some institution may have developed their own report template  
A. Correct  
B. Incorrect
3. In a given report all sections/parts of the fonts must be the same  
A. Correct  
B. Incorrect

**Directions2: Say True or False**

1. The appearance of a report is no less important than its content.
2. An attractive, clearly organized report stands a better chance of being read.

**Note: Satisfactory rating - 6points**

**Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

<b>Information Sheet-4</b>	Creating a simple form using a wizard: - Access
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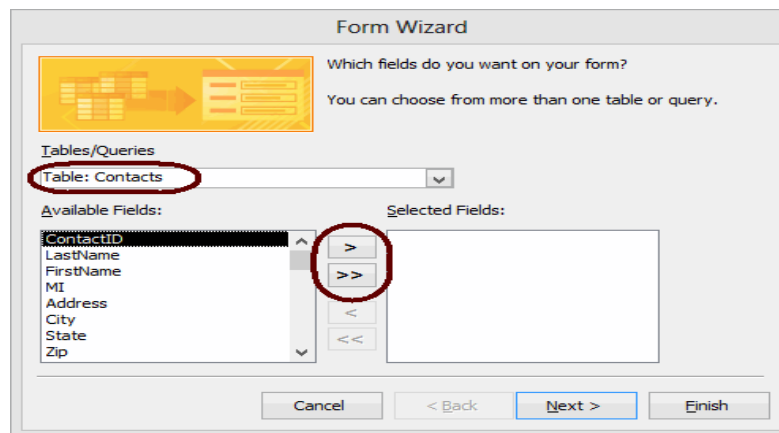
#### 4.1. Introduction

Forms in Access are like display cases in stores that make it easier to view or get the items that you want. Since forms are objects through which you or other users can add, edit, or display the data stored in your Access desktop database, the design of your form is an important aspect. If your Access desktop database is

going to be used by multiple users, well-designed forms are essential for efficiency and data entry accuracy.

Access provides several quick-create form tools on the Create tab, each of which lets you create a form with a single click. However, if you want to be more selective about what fields appear on the form, you can use the Form Wizard instead. The wizard also lets you define how the data is grouped and sorted, and you can use fields from more than one table or query (provided that you specified the relationships between the tables and queries beforehand).

- Start the Form Wizard
  - ✓ On the Create tab in the Forms group, click Form Wizard. The wizard starts.



**Figure 100: Form Wizard**

- ✓ From the Tables/Queries drop-down list, select the table (or query) to base the form on. The fields for the selected table load in the Available Fields list box.
- ✓ Move the fields to include on the form from the Available Fields list box to the Selected Fields list box. To do so, double-click a field name to move it or highlight the field name and click >

**Figure 101: Form wizard detail**

✓ Click Next >...

Select the layout for the form. Your options are "Columnar", "Tabular", "Datasheet", and "Justified".

**Tip:** Select each of the options to see a preview of the form layout before you make a final selection.

- ✓ Click Next >.

**Figure 102: open the form or Enter information**

- ✓ Enter a title for the form.
- ✓ Select an option for the view you want to open the form in. Your options are:
  - ✓ Open the form to view or enter information (opens in Form view).
  - ✓ Modify the form's design (opens in Design view).
- ✓ Click Finish. The form loads in the view you selected.



## 4.2. Create a table and add fields

Reports and forms in access are created based on existing or new Tables & Queries. The Form Wizard can create a variety of results depending on the options that you select. As a result, we recommend that you run the wizard several times, experimenting with different options each time, until you get the results that you want.

When you create an Access database, you store your data in tables subject-based lists that contain rows and columns. For instance, you can create a Contacts table to store a list of names, addresses, and telephone numbers, or a Products table to store information about products. This article explains how to create a table, add fields to a table, set a table's primary key, and how to set field and table properties.

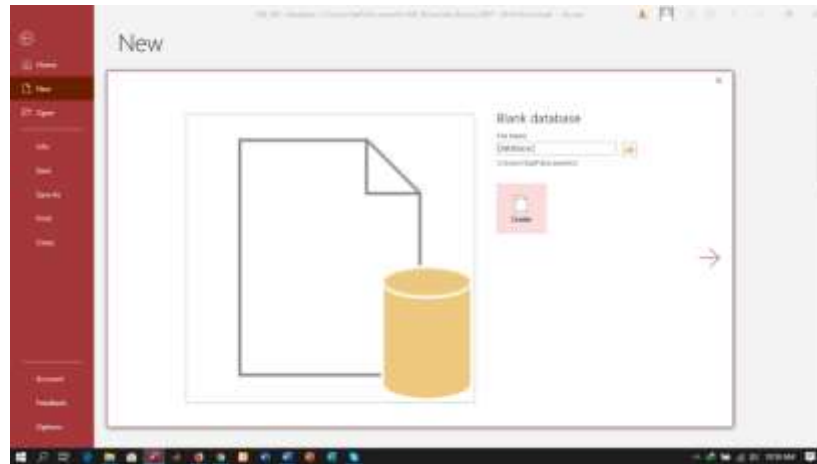
Before you create tables and add fields, make sure you understand the background concepts. For more information, see Introduction to tables.

- **Creating a table**

A simple database, such as a contact list, might use only a single table. Many databases, however, use several tables. When you create a new database, you create a new file on your computer that acts as a container for all of the objects in your database, including your tables.

You can create a table by creating a new database, by inserting a table into an existing database, or by importing or linking to a table from another data source — such as a Microsoft Excel workbook, a Microsoft Word document, a text file, or another database. When you create a new, blank database, a new, empty table is automatically inserted for you. You can then enter data in the table to start defining your fields.

- Create a new table in a new database
  - ✓ Click File > New, and then select Blank desktop database.



**Figure 103: File opening**

- ✓ In the File Name box, type a file name for the new database.
- ✓ To browse to a different location and save the database, click the folder icon.
- ✓ Click Create.
- ✓ The new database opens, and a new table named Table1 is created and opens in Datasheet view.



Self-Check -4	Written Test
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**Directions:** choose the correct answer for the following questions and write on the black space.

1. If your Access desktop database is going to be used by multiple users, well-designed forms is essential for \_\_\_\_\_ and.  
A. Efficiency  
B. Data entry accuracy  
C. Both A and B
2. When creating an Access database, one stores data in tables  
A. Correct B. Incorrect
3. When you create a new, blank database, a new, empty table is automatically inserted for you. Correct B. Incorrect

**Directions2:** Say True or False

4. Forms in Access are like display cases in stores that make it easier to view or get the items that you want
5. An attractive, clearly organized report stands a better chance of being read.

**Note: Satisfactory rating – above 3 points points**

You can ask your teacher for the copy of the correct answers.

**Answer Sheet**

**Unsatisfactory - below 3**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Operation Sheet-4	Creating a simple form using a wizard: - Access
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**Step 1:** Create a database (Tables & Forms) using access

**Step 2.** Open Microsoft access

**Step 4.** Open the form wizard





### Step 3. Create simple form

LAP Test	Practical Demonstration
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Name\_\_\_\_\_ Date\_\_\_\_\_

Time Started\_\_\_\_\_ Time Finished\_\_\_\_\_

**Instruction: Given Templates, Tools and Materials, you are required to perform the following tasks within \_\_\_\_\_ hours**

Create a blank form in Access for Bill of Quantity for simple PV System which includes Description, Unit, Quantity, Unit price and Total price.



## Information Sheet-5

## Opening existing database modifying records

**Task-1:** Create a form with no controls or preformatted elements: On the **Create** tab, click **Blank Form**. Access opens a blank form in Layout view, and displays the **Field List** pane.

**Task -2:** In the **Field List** pane, click the plus sign (+) next to the table or tables that contain the fields that you want to see on the form.

**Task -3:** To add a field to the form, double-click it or drag it onto the form. To add several fields at once, hold down CTRL and click several fields, and then drag them onto the form at the same time.

**Note:** The order of the tables in the **Field List** pane can change, depending on which part of the form is currently selected. If you are not able to add a field to the form, try selecting a different part of the form and then try adding the field again.

**Task 4:** Use the tools in the **Controls** group on the **Form Layout Tools** tab to add a logo, title, page numbers, or the date and time to the form.

### Introduction

For a number of reasons sometimes it is necessary to open and edit the existing Database. This section describes the different methods you can use to open existing Access databases. You can open databases from Windows Explorer or from within Access it. Opening multiple databases at once also possible

Access provides two views that you can use to make changes to your report: Layout view and Design view. Your choice of which view to use depends on what specific task you are trying to accomplish. You might end up using both views to make your changes.

- **Open an Access database from Windows Explorer**

In Windows Explorer, navigate to the drive or folder containing the Access database file you want to open and double-click the database. Access starts and the database is opened.



## 5.2. Open a database from within Access

- If Access is already running, use the following procedure to open a database. Note, the steps vary slightly depending upon your version of Access.
  - On the getting started page of Access, Click Open Other Files.
  - On the Open area of the Backstage view, click Browse.
  - Click a shortcut in the Open dialog box, or in the Look in box, click the drive or folder that contains the database that you want.
  - In the folder list, browse to the folder that contains the database.
  - When you find the database, do one of the following:
  - Double-click the database to open it in the default mode specified in the Access Options dialog box or the mode that was set by an administrative policy.
- 
- ✓ Click Open to open the database for shared access in a multi-user environment so that you and other users can read and write to the database.
  - ✓ Click the arrow next to the Open button and then click Open Read-Only to open the database for read-only access so that you can view but not edit it. Other users can still read and write to the database.
  - ✓ Click the arrow next to the Open button and then click Open Exclusive to open the database with exclusive access. When you have a database open with exclusive access, anyone else who tries to open the database receives a "file already in use" message.
  - ✓ Click the arrow next to the Open button and then click Open Exclusive Read-Only to open the database for read-only access. Other users can still open the database, but they are limited to read-only mode.

<b>Self-Check -5</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:



1. You can open databases from \_\_\_\_\_
  - A. Windows Explorer.
  - B. Within Access itself
  - C. A and B.
  - D. None of the above
2. Access provides \_\_\_\_\_ views that you can use to make changes to your report: and. Possible
  - A. Layout view
  - B. Design view
  - C. A & B
  - D. All of the above
3. If you would like to restrict any modification to a database to all, open the database in \_\_\_\_\_
  - A. Read-Only
  - B. Exclusive
  - C. Exclusive Read-Only
  - D. All of the above

**Note: Satisfactory rating –3 points**

**Unsatisfactory - below 3 and 4 points**

You can ask your teacher for the copy of the correct answers.

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

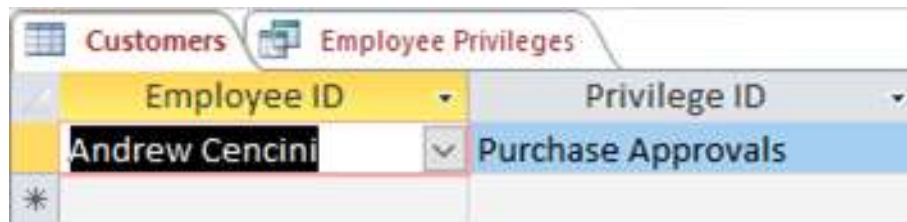
<b>Operation Sheet 6</b>	<b>Rearranging objects within the forms</b>
--------------------------	---

### Introduction

By default, Access shows tabs to work with open objects, such as tables, forms, reports, and queries. To move between open objects, select the tabs. Tabs keep open objects visible and accessible. If you prefer a legacy approach, you can still display objects in overlapping windows.

### Use tabs to move between open objects

1. Select a tab to show the object.



2. Right click the tab to save, close, or switch views.

### Choose between object tabs or overlapping windows

You can either use object tabs (also called tabbed documents) or overlapping windows as the method to show objects in the Document window. Object tabs are the default method. Earlier versions of Access showed objects in overlapping windows and that option is still available.

- ✓ Select File > Options.
- ✓ In the Access Options dialog box, select Current Database.
- ✓ In the Application Options section, under Document Window Options, do one of the following:
  - ✓ Select Tabbed Documents.
  - ✓ Select Overlapping Windows. When you select this option, Access clears the Display Document Tabs check box automatically.
- ✓ For the setting to take effect, close and then re-open the database.

### Show or hide object tabs

If you want to customize the look and feel of a database with tabbed documents, you can either show or hide the object tabs. In some cases, tabs may make the database look cluttered or interfere with your design, so you may prefer to hide the tabs. For example, you want to create a set of buttons on a custom form or use a navigation form so users can navigate around your database. If you hide tabs, Access does not provide the Close button (X). You may need to add your own buttons to close an object or instruct your users to press CTRL+F4.

1. Select **File > Options**.
2. In the **Access Options** dialog box, select **Current Database**.
3. In the **Application Options** section, select or clear the **Display Document Tabs** check box.
4. For this setting to take effect, close and then re-open the database.



If you hide tabs and you want to open and switch between multiple objects, you can use

### List of Reference Materials

1. [https://www.quackit.com/microsoft\\_access/microsoft\\_access\\_2016/tutorial/](https://www.quackit.com/microsoft_access/microsoft_access_2016/tutorial/)
2. Access 2007-2016 online help
3. <https://www.openpolytechnic.ac.nz/current-students/study-tips-and-techniques/assignments/>



# **Solar PV System Installation and Maintenance Level-II**

## **Learning Guide -72**

<b>Unit of Competence</b>	<b>Solar PV System Installation and Maintenance</b>
<b>Module Title</b>	<b>Operating Application Software Packages</b>
<b>LG Code</b>	<b>EIS PIM2 M12 LO8- LG72</b>
<b>TTLM Code</b>	<b>EIS PIM2 TTLM 0819v1</b>

### **LO8: Retrieve information**



Instruction Sheet	Learning Guide -72
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This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics –

- Accessing existing database and records
- Creating simple query and retrieving required information
- Developing query with multiple criteria
- Selecting and displaying data

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, **you will be able to:**

- Access existing database and records
- Create simple query and retrieving required information
- Develop query with multiple criteria
- Select and displaying data

**Learning Instructions:-**

7. Read the specific objectives of this Learning Guide.
8. Follow the instructions described below 1 to 2
9. Read the information written in the information Sheet 1, Sheet 2, Sheet 3, Sheet 4, in pages 3, 11, 25 & 31 respectively.
10. Accomplish the Self-check 1, Self-check 2, Self-check 3, Self-check 4 in pages 9, 23, 30, and 34 respectively
11. If you earned a satisfactory evaluation from the “Self-check” proceed to Operation
12. Do the “LAP test” on page 37





## Information Sheet-1

## Accessing existing database and records

### 1.1. Introduction

This article covers the basic process of starting Access and creating a database that will be used on desktop machines, not over the Web. It explains how to create a desktop database by using a template, and how to build a database from scratch by creating your own tables, forms, reports, and other database objects. It also explains some techniques that you can use to get existing data into your new database.

When you first start Access, or if you close a database without closing Access, Microsoft Office Backstage view is displayed. Backstage view is a starting point from which you can create a new database, open an existing database, view featured content from Office.com anything you can use Access to do to a database file or outside of a database, as opposed to within a database.

#### • Creating a database

When you open Access, Backstage view displays the new tab. The New tab provides several ways that you can create a new database:

- ✓ **A blank database** you can start from scratch if you want. This is a good option if you have very specific design requirements or have existing data that you need to accommodate or incorporate.
- ✓ **A template that is installed with Access** Consider using a template if you are starting a new project and would like a head start. Access comes with several templates installed by default.
- ✓ **A template from Office.com** In addition to the templates that come with Access, you can find many more templates on Office.com. You don't even have to open a browser; the templates are available from the new tab.
- ✓ **Adding to a database**
- ✓ Once you are working in a database, you can add fields, tables or application parts.

Application parts are a feature that let you use several related database objects together as if they were one. For example, an application part might consist of a table and a form that is based on the table. You can add the table and the form at the same time by using the application part. You can also create queries, forms, reports, and macros - all the database objects that you are used to working with.



- **Create a database by using a template**

Access comes with a variety of templates that you can use as-is or as a starting point. A template is a ready-to-use database that contains all the tables, queries, forms, macros, and reports needed to perform a specific task. For example, there are templates that you can use to track issues, manage contacts, or keep a record of expenses. Some templates contain a few sample records to help demonstrate their use.

If one of these templates fits your needs, using it is usually the fastest way to get a database started. However, if you have data in another program that you want to import into Access, you might decide it is better to create a database without using a template. Templates have a data structure already defined, and it might require a lot of work to adapt your existing data to the template's structure.

- If you have a database open, on the File tab, click Close. Backstage view displays the New tab.
- Several sets of templates are available in the New tab, some of which are built into Access. You can download additional templates from Office.com. See the next section in this article for details.
- Select the template that you want to use.
- Access suggests a file name for your database in the File Name box you can change the file name, if you want. To save the database in a different folder from the one displayed below the file name box, click, browse to the folder in which you want to save it, and then click OK. Optionally, you can create and link your database to a SharePoint site.

- **Click Create**

Access creates a database from the template that you chose, and then opens the database. For many templates, a form is displayed in which you can begin entering data. If your template contains sample data, you can delete each record by clicking the record selector (the shaded box or bar just to the left of the record), and then doing the following: On the Home tab, in the Records group, click Delete.

- To begin entering data, click in the first empty cell on the form and begin typing. Use the Navigation Pane to browse for other forms or reports that you might want to use. Some templates include a navigation form which allows you to move between the different database objects.

## **1.2. Create a database without using a template**

If you are not interested in using a template, you can create a database by building your own tables, forms, reports, and other database objects. In most cases, this involves one or both of the following:



- Entering, pasting, or importing data into the table that is created when you create a new database, and then repeating the process with new tables that you create by using the Table command on the Create tab.
- Importing data from other sources and creating new tables in the process.
- Create a blank database

**Create a table, starting in Datasheet view** in datasheet view, you can enter data immediately and let Access build the table structure behind the scenes. Field names are assigned numerically (Field1, Field2, and so on), and Access automatically sets each field's data type, based on the data you enter follow the following steps.

- ✓ On the Create tab, in the Tables group, click Table.
- ✓ Access creates the table and selects the first empty cell in the Click to Add column.
- ✓ On the Fields tab, in the Add & Delete group, click the type of field that you want to add. If you don't see the type that you want, click More Fields.
- ✓ Access displays a list of commonly used field types. Click the field type that you want, and Access adds the new field to the datasheet at the insertion point.
- ✓ You can move the field by dragging it. When you drag a field in a datasheet, a vertical insertion bar appears where the field will be placed.
- ✓ To add data, begin typing in the first empty cell, or paste data from another source, as described in the section Copy data from another source into an Access table.
- ✓ To rename a column (field), double-click the column heading, and then type the new name.
- ✓ You should give a meaningful name to each field, so that you can tell what it contains when you see it in the Field List pane.
- ✓ To move a column, click its heading to select the column, and then drag the column to the location that you want. You can also select multiple contiguous columns and then drag them to a new location all at once. To select multiple contiguous columns, click the column header of the first column, and then, while holding down SHIFT, click the column header of the last column. Create a table, starting in Design view: in design view, you first create the table structure. then switch to Datasheet view to enter data, or enter data by using some other method, such as pasting, or importing.to

### **1.3. To create table follow the procedures Listed**

- On the Create tab, in the Tables group, click Table Design.
- For each field in your table, type a name in the Field Name column, and then select a data type from the Data Type list.



- If you want, you can type a description for each field in the Description column. The description is then displayed on the status bar when the cursor is located in that field in Datasheet view. The description is also used as the status bar text for any controls in a form or report that you create by dragging the field from the Field List pane, and for any controls that are created for that field when you use the Form Wizard or Report Wizard.
- After you have added all of your fields, save the table. On the File tab, click Save.
- You can begin typing data in the table at any time by switching to Datasheet view and clicking in the first

**Set field properties in Design view:** Regardless of how you created your table, it is a good idea to examine and set field properties. While some properties are available in Datasheet view, some properties can only be set in Design view. To switch to Design view, right-click the table in the Navigation Pane and then click Design View. To see a field's properties, click the field in the design grid. The properties are displayed below the design grid, under Field Properties.

To see a description of each field property, click the property and read the description in the box next to the property list under Field Properties. You can get more detailed information by clicking the Help button.

- The following table describes some of the field properties that are commonly adjusted.

✓ **Copy data from another source into an Access table**

If your data is currently stored in another program, such as Excel, you can copy and paste it into an Access table. In general, this works best if your data is already separated into columns, as they are in an Excel worksheet. If your data is in a word processing program, it is best to separate the columns of data by using tabs, or to convert the data into a table in the word processing program before you copy the data. If your data needs any editing or manipulation (for example, separating full names into first and last names), you might want to do this before you copy the data, especially if you are not familiar with Access.

When you paste data into an empty table, Access sets the data type of each field according to what kind of data it finds there. For example, if a pasted field contains nothing but date values, Access applies the Date/Time data type to that field. If the pasted field contains only the words "yes" and "no", Access applies the Yes/No data type to the field.



Access names the fields depending on what it finds in the first row of pasted data. If the first row of pasted data is similar in type to the rows that follow, Access determines that the first row is part of the data and assigns the fields generic names (F1, F2, etc.). If the first row of pasted data is not similar to the rows that follow, Access determines that the first row consists of field names. Access names the fields accordingly and does not include the first row in the data.

If Access assigns generic field names, you should rename the fields as soon as possible to avoid confusion. Use the following procedure:

- ✓ Press CTRL+S to save the table.
- ✓ In Datasheet view, double-click each column heading, and then type a descriptive field name for each column.
- ✓ Save the table again



Self-Check -1	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:(2point each)

**Say true or false**

1. Regardless of how you created your table, it is a good idea to examine and set field Properties.
2. Several sets of templates are available in the new tab.

**Note: Satisfactory rating 2 and above points      Unsatisfactory - below 1 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Short Answer Questions**

Operation Sheet -1	Methods of Accessing ,existing database and records
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### Steps of Accessing, existing database and records

**Step-1** on the Create tab, in the Tables group, clicks Table.

**Step-2** On the Fields tab, in the Add & Delete group, click the type of field that you want to add. If don't see the type that you want, click More Fields

**Step-3** Access displays a list of commonly used field types. Click the field type that you want, and Access adds the new field to the datasheet at the insertion point

**Step-4** To add data, begin typing in the first empty cell, or paste data from another source, as described in the section Copy data from another source into an Access table

**Step-5** To rename a column (field), double-click the column heading, and then type the new Name. You should give a meaningful name to each field, so that you can tell what it contains when you see it in the Field List pane

**Step-6** To move a column, click its heading to select the column, and then drag the column to the location that you want. You can also select multiple contiguous columns and then drag them to a new location all at once. To select multiple contiguous columns, click the column header of the first column, and then, while holding down SHIFT, click the column header of the last column.

Information Sheet-2	Creating simple query and retrieving required information
---------------------	---

#### 2.1. Introduction

When you want to select specific data from one or more sources, you can use a select query. A select query helps you retrieve only the data that you want, and also helps you combine data from several data sources. You can use tables and other select queries as data sources for a select query. This topic provides an overview of select





queries, and gives steps for creating a select query, by using the Query Wizard or in Design view.

When you want to use data, you rarely want to use all of the data from one table. For example, when you want to use data from a Contacts table, you usually want to look at one specific record, or maybe just the telephone number. Sometimes you want to combine data from more than one table, such as combining Customer information with Order information. To select the data that you want to use, you use a select query.

A select query is a database object that shows information in Datasheet view. A query does not store data, it displays data that is stored in tables. A query can show data from one or more tables, from other queries, or from a combination of the two

- **Benefits of using a query**

View data only from the fields you are interested in viewing. When you open a table, you see all the fields. A query is a handy way to save a selection of fields.

A query only points to data, it does not store data. When you save a query, you are not saving a copy of the data.

- ✓ Combine data from several data sources. A table usually only displays data that it stores. A query lets you pick and choose fields from various sources, and specify how the information should be combined.
- ✓ Use expressions as fields. For example, you could use the Date function as a field, or you could use the Format function with a field to control the way the data from the field is formatted in the query results.
- ✓ View records that meet criteria that you specify. When you open a table, you see all the records. A query is a handy way to save a selection of records.

## **2.2. Basic steps to create a select query**

You can create a select query by using the Query Wizard or by working in Design view. Some design elements are not available when you use the wizard, but you can add these elements later by using Design view. Although the two methods are somewhat different from each other, the basic steps are essentially the same:

- Choose the tables or queries that you want to use as sources of data.
- Specify the fields that you want to include from the data sources.
- Optionally, specify criteria to limit the records that the query returns.
- After you have created a select query, you run it to see the results. To run a select query, you open it in Datasheet view. If you save the query, you can reuse it whenever you need, for example, as a data source for a form, report, or another query.





### Use the Query Wizard to create a select query

You can use the Query Wizard to automatically create a select query. When you use the wizard, you have less control over the details of the query design, but the query is usually created faster than if you did not use the wizard. Moreover, the wizard can catch some simple design mistakes and prompt you to perform a different action.

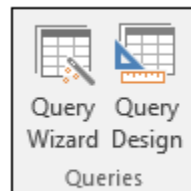
### Before you begin

If you use fields from data sources that are not related to each other, the Query Wizard asks you if you want to create relationships. The wizard opens the Relationships window for you, but you must restart the wizard if you edit any relationships. Therefore, before you run the wizard, consider creating any relationships that your query needs.

- For more information about creating table relationships, see the article [Guide to table relationships](#).

### Use the Query Wizard

- ✓ **On the Create tab, in the Queries group, click Query Wizard.**



- ✓ In the New Query dialog box, click Simple Query Wizard, and then click OK.
- ✓ Next, you add fields. You can add up to 255 fields from as many as 32 tables or queries. For each field, perform these two steps:
  - ✓ Under Tables/Queries, click the table or query that contains the field.
  - ✓ Under Available Fields, double-click the field to add it to the Selected Fields list. If you want to add all fields to your query, click the button with the double right arrows (>>).
- ✓ When you have added all the fields that you want, click Next.

Simple Query Wizard

Which fields do you want in your query?  
You can choose from more than one table or query.

Tables/Queries  
Table: Customers

Available Fields:

- E-mail Address
- Job Title
- Business Phone
- Home Phone
- Mobile Phone
- Fax Number
- Address
- City

Selected Fields:

- ID
- Company
- Last Name
- First Name

Cancel < Back Next > Finish

**Figure 104: Simple query wizard**

- ✓ If you did not add any number fields (fields that contain numeric data), skip ahead to step 9. If you added any number fields, the wizard asks whether you want the query to return details or summary data.

**Summary Options**

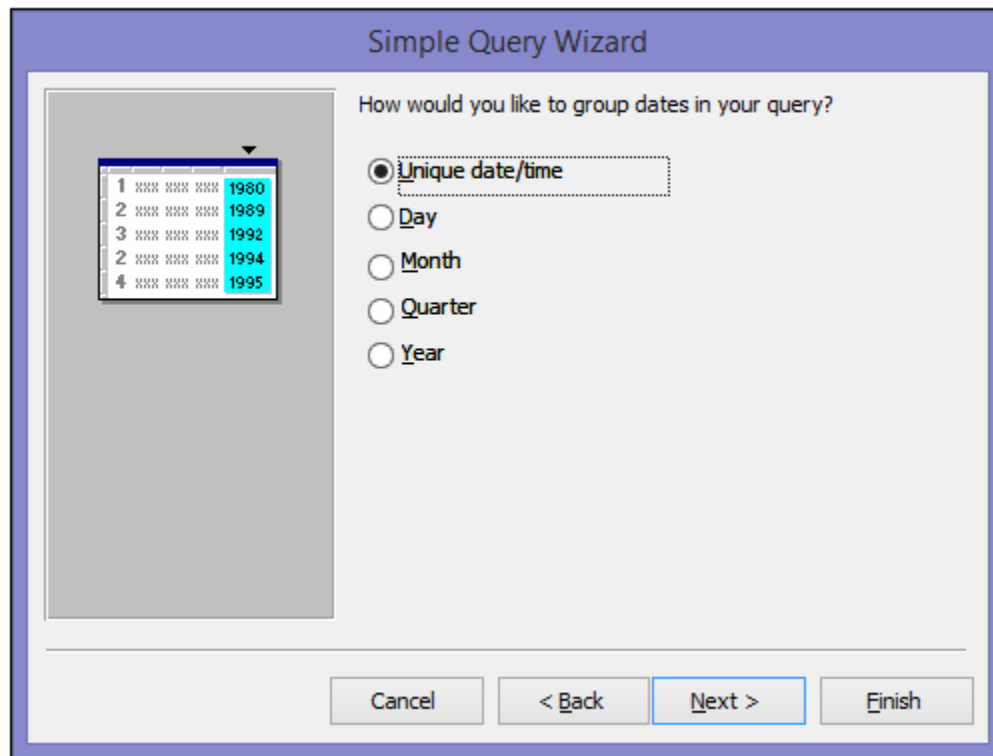
What summary values would you like calculated?

Field	Sum	Avg	Min	Max
Tax	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Amount Due	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Count records in Invoices

**Figure 105:** summary options

- ✓ If you want the query results to include a count of the records in a data source, select the appropriate Count records in data source name check box.
- ✓ Click OK to close the Summary Options dialog box.
- ✓ If you did not add a date/time field to the query, skip ahead to step 9. If you added a date-time field to the query, the Query Wizard asks you how you would like to group the date values. For example, suppose you added a number field ("Price") and a date/time field ("Transaction Time") to your query, and then specified in the Summary Options dialog box that you want to see the average value of the number field "Price". Because you included a date/time field, you could calculate summary values for each unique date/time value, for each day, for each month, for each quarter, or for each year.



**Figure 106: Query wizard**

### 2.3. Create a query by working in Design view

You can use Design view to manually create a select query. When you use Design view, you have more control over the details of the query design, but it is easier to make design mistakes, and it can take longer than using the wizard

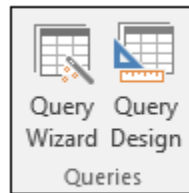
- **Create a query**

- ✓ Step 1: Add data sources
- ✓ Step 2: Join related data sources
- ✓ Step 3: Add output fields
- ✓ Step 4: Specify criteria
- ✓ Step 5: Summarize data
- ✓ Step 6: View the results

#### **Step 1: Add data sources**

When you use Design view, because you use the Show Table dialog box to add data sources, you add the data sources and fields in separate steps. However, you can always add more data sources later if you want.

- ✓ On the Create tab, in the Other group, click Query Design.



- ✓ In the Show Table dialog box, on the Tables, Queries, or Both tabs, double-click each data source that you want to use or select each data source and then click Add.
- ✓ Close the Show Table dialog box.

- **Automatic joins**

When you add the data sources, if the sources already have relationships defined between them, those relationships are automatically added to the query as joins. Joins specify how data from related sources should be combined. Access also automatically creates a join between two tables if they have fields have compatible data types and one field is a primary key.

You might want to adjust the joins that Access creates. Access determines what type of join to create based on the relationship the join represents. If Access creates a join but there is no defined relationship, Access creates an inner join.

If Access automatically creates the correct joins when you add the data sources, you can skip ahead to Step

- **Use the same data source several times**

In some cases, you want to join two copies of the same table or query, called a self-join, that combines records from the same table when there are matching values in the joined fields. For example, say you have an Employees table in which the Reports To field for each employee's record displays his or her manager's ID instead of name. You could use a self-join to display the manager's name in each employee's record instead. When you add a data source a second time, Access appends \_1 to the name of the second instance. For example, if you added the Employees table twice, the second instance would be named Employees\_1

## **Step 2: Join related data sources**

If the data sources that you add to a query already have relationships, Access automatically creates an inner join for each relationship. If referential integrity is enforced, Access also displays a "1" above the join line to show which table is on the "one" side of a one-to-many relationship and an infinity symbol ( $\infty$ ) to show which table is on the "many" side.

If you add queries to your query, and have not created relationships between those queries, Access does not automatically create joins between those queries, or between

queries and tables that are not related. If Access does not create joins when you add data sources, you should usually add them yourself. Data sources that are not joined to any other data source can cause problems with the query results.

You might also want to change the type of a join from an inner join to an outer join, so that your query includes more records.

## Add a join

- ✓ To add a join, drag a field from one data source to a corresponding field on another data source.
- ✓ Access displays a line between the two fields to show that a join has been created



**Figure 107: adding joint**

## Change a join

- ✓ Double-click the join you want to change the Join Properties dialog box appears.



**Figure 108: joining properties**

- ✓ The Join Properties dialog box, review the three options.
- ✓ Click the option that you want to use, and then click OK.



After the joins are ready, you add output fields — fields that have data that you want in the query results.

### **Step 3: Add output fields**

You can easily add a field from any of the data sources that you added in step 1.

- To add a field, drag the field from a data source in the upper pane of the query design window down to the Field row of the design grid, in the bottom pane of the query design window. When you add a field this way, Access automatically fills in the Table row of the design grid to reflect the data source of the field.

### **Use an expression as an output field**

If you want to perform calculations or use a function to produce query output, you can use an expression as an output field. An expression can use data from any of the query data sources, as well as functions, such as Format or and can also contains constants and arithmetic operators.

- ✓ In an empty column of the query design grid, right-click the Field row, and then click Zoom on the shortcut menu.
- ✓ In the Zoom box, type or paste your expression. Preface your expression with the name you would like to use for the expression output, followed by a colon. For example, if you wanted the expression to be labeled "Last updated", you would start your expression with Last updated:

### **Step 4: Specify criteria**

This step is optional.

You use criteria to limit the records that your query returns, on the basis of whether field values meet the criteria that you specify.

### **Specify criteria for an output field**

- ✓ In the query design grid, in the Criteria row of the field that has values that you want to limit, type an expression that field values must satisfy to be included in your results. For example, if you wanted to limit a query so that only records where the value of the field City is Las Vegas, type Las Vegas in the Criteria row under that field.
- ✓ For many examples of query criteria for various data types, see the article Examples of query criteria.
- ✓ Specify any alternate criteria in the or row, below the Criteria row.
- ✓ If you specify alternate criteria, a field value can meet any of the listed criteria and be included in the query result.

### **Multiple field criteria**

You can use criteria with multiple fields. When you do, all the criteria in a given Criteria or row must be true for the record to be included.





## **Specify criteria by using a field that you don't want to output**

You can add a field to your query design and not include the field's data in the query output. You do this if you want to use the field's values to limit the query results, but don't want to see the field values.

- ✓ Add the field to the design grid
- ✓ Clear the check box in the Show row for the field
- ✓ Specify criteria as you would for an output field

## **Step 5: Summarize data**

You might want to summarize data, especially if your data is numeric. For example, you might want to see the average price, or total sales.

To summarize data in a query, you use the Total row. By default, the Total row is not displayed in Design view.

- ✓ With the query open in Design view, on the Design tab, in the Show/Hide group, click Totals
- ✓ Access displays the Total row in the query design grid.
- ✓ For each field that you want to summarize, choose the function to use from the list in the Total row. The functions that are available depend on the data type of the field.

## **Step 6: View the results**

To see the query results, on the Design tab, click Run. Access displays the results of your query in Datasheet view. To make further changes to the query, click Home > View > Design View to switch back to Design view.

Change your fields, expressions, or criteria and rerun the query until it returns the data that you want.

## **Create a select query in an Access web app**

Creating a select query in an Access web app is similar to the procedure above for desktop databases, with just a little extra bit of work to make the query results available in the browser.

**Important:** Microsoft no longer recommends creating and using Access web apps in SharePoint. As an alternative, consider using Microsoft Power Apps to build no-code business solutions for the web and mobile devices.

- ✓ Open the web app in Access
- ✓ Click Home > Advanced > Query
- ✓ In the Show Table dialog box, on the Tables, Queries, or Both tabs, double-click each data source that you want to use or select each data source and then click Add. Click Close when you're finished.

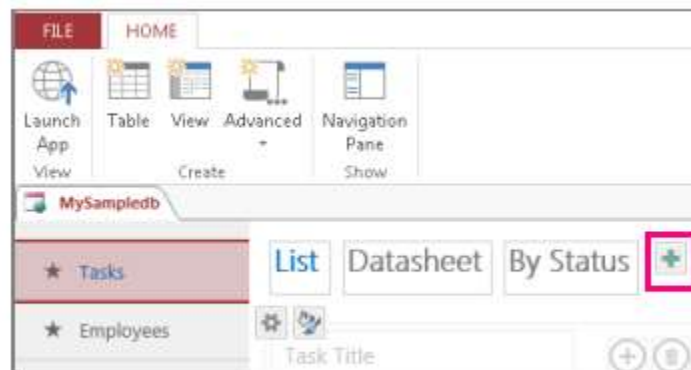




- ✓ Drag the fields from a data source in the upper pane of the query design window down to the Field row of the design grid, in the bottom pane of the query design window.
- ✓ Add any criteria to the fields that you want to see the query results, right-click the query tab and then click Datasheet View.

To make the query results available on the browser view, you need to add a view based on the query in the Table Selector. To add a new view to a table caption in the Table Selector, complete the following steps:

- ✓ Click the table caption name in the Table Selector in the left pane and then click the Add New View button (the plus sign).



**Figure 109: data sheet**

## Self-Check -2

## Written Test

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:(2point each)

### Say true or false

1. A query only points to data it does not store data.
2. Microsoft no longer recommends creating and using Access web applications.

**Note:** Satisfactory rating 2 and above points      Unsatisfactory - below 1 points

You can ask you teacher for the copy of the correct answers.

## Answer Sheet



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Short Answer Questions

<b>Operation Sheet -2</b>	<b>Creating simple query and retrieving</b>
---------------------------	---

#### **Steps to creating simple query and retrieving required information**

The steps for building a query in Adobe Campaign are as follows:

**Steps 1** - Choose a table

**Step 2** - Choose data to extract

**Step 3** - Sort data

**Step 4** - Filter data

**Step 5** - Format data

**Step 6** - Preview data



Information Sheet-3	Developing query with multiple criteria
---------------------	---

### 3.1. Introduction

You can limit the records that you see in the result of a query by adding criteria to the query. For example, you might want to see just the customers in California, or you might want to view just the orders with sales over \$500. You could also view sales that occurred within a specific date range. By using criteria, you can easily accomplish any of these tasks, and many, many more.

- **Using an Exact Match Query**

An exact match query locates data only when there is an exact match with the criteria that you enter. Here's how you run an exact match query

- ✓ Open the desired query in Design view.
- ✓ Select the cell on the Criteria row below the field for which you want to add the condition. type the criteria you want to apply for that field. For example, type Sales Representative in the Title field.
- ✓ Click the Run button

Although Access is not case-sensitive, and you can therefore enter criteria in either upper- or lowercase, the criteria you enter must follow specific rules. These rules vary depending on the type of field the criteria apply

- **Creating Criteria Based on Multiple Conditions**

There may be times when you want to create a query that contains two or more conditions. You would do this, for example, if you only wanted records in the state of California that had sales within a certain date range to appear in the output. The And condition is used to indicate that both of two conditions must be met in order for the row to be included in the resulting record set. You can use the and condition in the same field or on multiple fields.

- **Using the and Condition on Multiple Fields**

By placing criteria for multiple fields on the *same* line of the query grid, you create an and condition. This means that both conditions must be true in order for the records to appear in the result. An example of an and condition on two fields would be State Field = 'TX' And Credit limit >=5000. Here's how you create an and condition:

- ✓ Open the desired query in Design view.



- ✓ Select the cell on the Criteria row below the field that contains the first condition you want to enter.
- ✓ Type the first criterion you want to enter. For example, you can type Sales Manager as the criterion for Contact Title.
- ✓ Select the cell on the Criteria row below the field that contains the second condition you want to apply.
- ✓ Type the second criterion you want to apply

- **Using the and Condition in a Single Field**

There are only a few situations in which you would use an and condition in a single field. This is because in most situations, using the and condition in a single field would yield a recorder with no results. For example, the criteria State = TX and State = CA would yield no results because the state cannot be equal to both values at the same time. On the other hand, Hire Date > 7/1/2001 And Hire Date < 6/30/2002 would return all employees hired in that date range. Here's how you would enter this sort of criteria:

- ✓ Open the desired query in Design view.
- ✓ Select the cell on the Criteria row below the field that contains the condition you want to add.
- ✓ Type the first criterion you want to add (for example, Hire Date > 7/1/2001).
- ✓ Type the keyword And.
- ✓ Type the second criterion (for example, Hire Date < 6/30/2002).
- ✓ Click the Run button. Access runs the query.

- **Using Wildcards in a Query**

You can use wildcards to select records that follow a pattern. However, you can use the wildcard characters only in Text or Date/Time fields. You use the \* to substitute for multiple characters and the . To substitute for single characters. To practice using wildcards in a query, follow these steps:

- ✓ Open the desired query in Design view.
- ✓ Select the cell on the Criteria row below the field that contains the condition.
- ✓ Type the criteria, using a wildcard in the desired expression. If the expression Like Sales\* is entered for the Contact Title field. This expression returns all rows where the Contact Title begins with Sales.

- ✓ Click the Run button. The result of the query

- **Using Comparison Operators in a Query**

Sometimes you want to select records in a table that fall within a range of values. You can use comparison operators (=, <, >, <=, and >=) to create criteria based on the comparison of the value contained in a field to a value that you specify in your criteria. Each record is



evaluated, and only records that meet the condition are included in the record set. To practice using comparison operators in queries, follow these steps:

- ✓ Open the desired query in Design view.
- ✓ Select the cell on the Criteria row below the field for which you want to apply the condition.
- ✓ Type a comparison operator and the criterion you want the query to apply (for example, >100).
- ✓ Click the Run button. The result of the query appears, in Datasheet view.

- **Using the or Condition on a Single Field**

The or the record to appear in the result set. You can use the or condition on a single field or on more than one field. To practice using an or condition on a single field,

**follow these steps:**

- ✓ Open the desired query in Design view.
- ✓ Select the cell on the Criteria row below the field that contains the condition. Condition states that either condition of two conditions should be met in order for Type the first criterion you want the query to apply. For example, you could type Sales manager as a criterion for the Contact Title field.
- ✓ Select the cell below the current cell (this is the or row).
- ✓ Type the second criterion you want the query to apply. For example, you could type Sales Agent as the criterion for the Contact Title field.
- ✓ Click the Run button.

- **Using the or Condition on Multiple Fields**

An alternative to using the or condition on a single field is to use the or condition to create criteria on multiple fields. An example would be City equals London or Contact Title equals Sales Agent. These criteria would return all companies in London, regardless of the contact title, and all sales agents, regardless of the city. Here's how you use the Or condition on multiple fields:

- ✓ Open the desired query in Design view.
- ✓ Select the cell on the Criteria row below the field for which you want to apply the first condition.
- ✓ Type the first criterion you want the query to apply (from the criterion mentioned in the introduction to these steps).
- ✓ Select the cell in the Or row below the second field for which you want to apply the criterion.
- ✓ Type the second criterion you want the query to apply
- ✓ Click the Run button



When you use two fields in an or condition, you need to make sure the criteria are listed on two separate lines. If you don't, they will combine as an and condition. You need to use the or condition to find dates or numbers that fall outside a range (for example, before 6/1/96 or after 1/1/97)

Self-Check -3	Written Test
---------------	--------------

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:(2point each)

**Say true or false**

1. There are only a few situations in which you would use an And condition.
2. An exact match query locates data only when there is an exact match with the criteria.

**Note: Satisfactory rating – 2& above points Unsatisfactory - below 2 point**

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_



Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Question

Operation Sheet 3	Developing query with multiple criteria
-------------------	---

#### Steps to develop query with multiple criteria

**Step -1** Open the desired query in design view

**Step -2** Select the cell on the Criteria row below the field that contains the first condition you want to enter.

**Step -3** Type the first criterion you want to enter. For example, you can type Sales Manager as the criterion for Contact Title

**Step -4** Select the cell on the Criteria row below the field that contains the second condition you want to apply.

**Step -5** Types the second criterion you want to apply



Information Sheet-4	Selecting and displaying data
---------------------	-------------------------------

#### 4.1. Introduction

The **select** statement is used to query the database and retrieve selected data that match the criteria that you specify.

- Here is the format of a simple select statement data:
  - ✓ Select "column1"
  - ✓ [,"column2",etc]
  - ✓ from "table name"
  - ✓ [where "condition"];
  - ✓ [= optional ]

The column names that follow the select keyword determine which columns will be returned in the results. You can select as many column names that you'd like, or you can use a "\*" to select all columns.





The table name that follows the keyword from specifies the table that will be queried to retrieve the desired results.

The where clause (optional) specifies which data values or rows will be returned or displayed, based on the criteria described after the keyword where.

Conditional selections used in the where clause:

=	Equal
>	Greater than
<	Less than
>=	Greater than or equal
<=	Less than or equal
<>	Not equal to

#### 4.2. Select statement exercises

- Enter select statements to:
  - ✓ Display the first name and age for everyone that's in the table.
  - ✓ Display the first name, last name, and city for everyone that's not from Payson.
  - ✓ Display all columns for everyone that is over 40 years old.
  - ✓ Display the first and last names for everyone whose last name ends in an "ay".
  - ✓ Display all columns for everyone whose first name equals "Mary".
  - ✓ Display all columns for everyone whose first name contains "Mary".

Within a step, you may want your users to select one or more object. You can display this information in a variety of ways:

- ✓ A pop-up search dialog for searching for objects by name
- ✓ A pick list from which they can select one object
- ✓ A multi-select pick list for selecting more than one
- ✓ A table of objects, and you can select which of the object's fields it should display in separate column



If only one object can be selected, Guide Designer adds a column containing radio buttons; otherwise, it adds checkboxes. If you are just displaying one object, you can display the object's fields as a one-row, multi-column table. By default, Guide Designer displays a search dialog box when users are searching for information for fields that can be updateable. You can override the default and tell Guide Designer to display object information using either a picklist or table. Pick lists and tables are populated using a query that filters the possible objects down to just those that should be presented. For example, Guide Designer could show only the contacts that are associated with an account.

You can customize the fields being shown for each object. If only one field from these objects is displayed, Guide Designer shows this information as a list. However, if you are displaying more than one (for example, a lead's first and last name), Guide Designer shows each within its own column in a table.

#### 4.3. Displaying and selecting records

When managing data, you select the group of records with which you want to work. This group of records is called the current selection. The current selection can contain none, one, some, or all of the records in a table. Every table and every process has its own current selection of records. The current selection is an important concept.

The most common data management operations are performed on the records in the current selection. These operations include:

- ✓ Sorting records,
- ✓ Viewing and modifying individual records,
- ✓ Updating a group of records,
- ✓ Printing a report,
- ✓ Generating labels,
- ✓ Graphing data,
- ✓ Exporting records.

In other words, creating a current selection in a table is the first step towards numerous other data management operations. The current selection of records is always the set of records most recently selected. For instance, you might have a company database that uses an Employees table to keep track of employee records. Suppose that you decide to search for the records of all engineers in the company. When this query begins, the current selection may contain the records of all employees in the company salespeople, production personnel, engineers, and so on.



When the query is completed, the current selection contains only the engineers' records. If you were to print a list of records, the list would contain only the records in the current selection in this case, the records for all of the engineers in the company. If you were to graph employee salaries, your graph would display the salaries for all of the engineers in the company.

The current selection remains the same until you perform an operation that changes it. You can change the current selection by:

- ✓ Selecting all records,
- ✓ Manually selecting a subset of records,
- ✓ Searching for records.

The title bar of the output form tells you how many records are in the current table and how many records from the table are in the current selection. The control panel of certain input forms displays, under the navigation buttons.

The number of the record selected and the total number of records in the current selection. The number of the record selected corresponds to its position in the current selection.

Every table in a database has its own current selection. In a relational database, changing the current selection in one table can change the current selections in related tables. For example, in a database consisting of related [Employees] and [Departments] tables, opening an input form in the [Departments] table changes the current selection in the [Employees] table. That is, the employees belonging to that department become the new current selection in the [Employees] table.

If you use processes for carrying out tasks in the database, there may be several simultaneous current selections per table. Each process acts like an individual environment, which lets you carry out separate tasks. It can be useful to have more than one current selection.



Self-Check -4	Written Test
---------------	--------------

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:(2point each)

**Say true or false**

1. The column names that follow the select keyword determine which columns will be returned in the results.
2. Every table and every process has its own current selection records.

**Note: Satisfactory rating – 2& above points Unsatisfactory - below 2 point**

**Answer Sheet**

Name: \_\_\_\_\_

**Short Answer Question**

Score = _____
Rating: _____

Date: \_\_\_\_\_



Operation Sheet -4	Selecting and display data
--------------------	----------------------------

**Steps to selecting data and display:**

- Step-1 Sorting records
- Step-2 Viewing and modifying individual records
- Step-3 Updating a group of records
- Step-4 Printing a report
- Step-5 Generating labels
- Step-6 Generating labels,
- Step-7 Exporting records.



LAP Test	Practical Demonstration
----------	-------------------------

**Instructions:** Given necessary templates, tools and materials you are required to perform the following tasks within --- hour.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

Task-1. Access in exist database and records

Task-2 Create simple query and retrieve

Task-3 Develop query with multiple criteria

Task-4 Select and display data



## Reference

1. Chadwick, D. (2003), “Stop That Subversive Spreadsheet!” in *Integrity and Internal Control in Information Systems V*, ed. M. Gertz, IFIP—the International Federation for Information Processing 124. New York: Springer, pp. 205–211. Available at [http://link.springer.com/chapter/10.1007/978-0-387-35693-8\\_13](http://link.springer.com/chapter/10.1007/978-0-387-35693-8_13). [Crossref], [Google Scholar]
2. Murrell, P. (2013), “Data Intended for Human Consumption, Not Machine Consumption,” in *Bad Data Handbook*, ed. Q. E. Mac Callum, Sebastopol, CA: O'Reilly Media, pp. 31–51.



# **Solar PV System Installation and Maintenance**

## **Level-II**

# **Learning Guide -73**

<b>Unit of Competence</b>	<b>Solar PV System Installation and Maintenance</b>
<b>Module Title</b>	<b>Operating Application Software Packages</b>
<b>LG Code</b>	<b>EIS PIM2 M12 LO9- LG73</b>
<b>TTLM Code</b>	<b>EIS PIM2 TTLM 0819v1</b>

### **LO9: Print documents**





<b>Instruction Sheet</b>	<b>Learning Guide -73</b>
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This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics –

- Previewing document/ spread sheet in print preview mode
- Selecting basic print settings/ options
- Printing document/spread sheet
- Submitting spread sheet to appropriate person

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, **you will be able to :**

- Preview document/ spread sheet in print preview mode
- Select basic print settings/ options
- Print document/spread sheet
- Submit spread sheet to appropriate person

#### **Learning Instructions:-**

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 40 to 41.
3. Read the information written in the information Sheet 1, Sheet 2, Sheet 3, Sheet 4, in pages 42, 50, 58 & 66 respectively.
4. Accomplish the Self-check 1, Self-check 2, Self-check 3, Self-check 4 in pages 48, 56, 64, and 77 respectively
5. If you earned a satisfactory evaluation from the “Self-check” proceed to Operation
6. Do the “LAP test” on page 79

<b>Information Sheet -1</b>	<b>Preview document/spread sheet in preview mode</b>
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### **1.1. Definition Document Spread**



Print preview is a feature that displays on the screen what a hard copy will look like when printed. By using print preview, you can find any errors that may exist or fix the layout before printing, which can save ink or toner and paper by not having to print more than once. To open the print preview feature, click the print preview icon on the toolbar, like that shown in the picture, or click File and choose the Print Preview

## 1.2. Switching to Print Preview

The Print Preview feature shows you how your document will look when you print it. Print Preview offers the advantage of seeing multiple pages of your document in a smaller size. The Print Preview image isn't static. You can make editing and formatting changes to create just the right look before you print the document.

Using buttons on the Print Preview toolbar, you can switch to a multiple page view, or you can use the Zoom feature to adjust the size of the page. Other buttons give you access to the Magnifier, the ruler, the Shrink to Fit feature, and Full Screen view

- To use the Print Preview feature, do the following:
  - ✓ Choose File, Print Preview from the menu. The current page is displayed
  - ✓ Make any necessary adjustments.
  - ✓ When you are finished, click the Close button to switch back to the document window

Most of the buttons in Print Preview are self-explanatory. The others, like the Magnifier button, are not, so I'll try to clarify them here:

- **Magnifier**—Click this button to turn on Magnifier. Then click the section of text that you want to magnify. Click the text again to go back to "normal."
- **Multiple Pages view**—Click this button to open a palette of pages. Click and drag across the palette to select the number of pages you want to view at once. The maximum number of pages is six.
- **Shrink to Fit**—Click this button to activate the Shrink to Fit feature, which makes small adjustments that allow the text to fit on one page.

The cost of printing multiple copies on a laser printer is virtually identical to the cost of running copies on a copier. However, it's much faster just to print three copies of a document than it is to print a copy, walk to the copier, punch in your account number, figure out which buttons to press to get three copies, and wait for them to be finished.



### 1.3. Changing the Number of Copies

The cost of printing multiple copies on a laser printer is virtually identical to the cost of running copies on a copier. However, it's much faster just to print three copies of a document than it is to print a copy, walk to the copier, punch in your account number, figure out which buttons to press to get three copies, and wait for them to be finished.

Follow these steps to change the number of copies you want to print:

- ✓ Choose File, Print (Ctrl + P) to display the Print dialog box
- ✓ Change the number in the Number of copies text box

- **Printing Specific Pages**

When you're revising a multipage document, printing the whole thing again doesn't make sense when you need to check only a few pages. Save some trees and print just the pages that you need. The following options are found in the Print dialog box (File, Print).

- ✓ To print the current page, choose Current Page.
- ✓ To print multiple pages, type the page numbers that you want to print in the Pages text box. For example, if you need to print pages 3 through 9, type 3-9. If you also want to print page 15, type 3-9, 15 in the text box. Finally, if you type a page number followed by a dash, Word prints from that page number to the end of the document. For example, 13- prints page 13 and everything that follows it.
- ✓ To print selected text, select the text before you open the Print dialog box. Then choose Selection.
- ✓ To print on both sides of the paper, print the odd pages, reinsert the paper, and then print the even pages. Open the Print drop-down list and choose Odd pages or Even page

It almost goes without saying, but the default paper orientation in Word is portrait, which means the paper is taller than it is wide. With landscape orientation, the paper is wider than it is tall. Think of a typical spreadsheet with lots of columns. Landscape orientation is well suited for that type of document because there is more room from left to right. To switch to landscape orientation, choose File, Print, and Properties. In the Orientation section, choose Landscape. Bear in mind that this setting will stick, so if you want to print in portrait orientation again, you'll have to go back and change it here.

### 1.4. Faxing Documents from Word

How many times have you printed out a document, fed it into a fax machine, and then put the printout in the recycle bin? You can save some time, paper, and printing



resources by faxing directly from within Word. there are essentially two ways to send a fax from Word:

Using a fax service or using a fax modem. To send through a fax service, you must be signed up with a fax service provider. Fax services offer several advantages, one of which is the ability to use the fax service to fax from Excel, PowerPoint, or Microsoft Office Document Imaging in addition to Word.

Whether you use a fax modem or an Internet fax service, you'll need software. Most modems ship with fax software, so check your documentation and install the necessary software.

Both Windows 2000 and Windows XP have a built-in fax service that is easy to use and integrates well with Office 2003 applications. It is not installed by default, however, so you'll need to update your Office 2003 installation.

To install the Fax component, follow these steps:

- ✓ Choose Start, Control Panel, Add or Remove Programs.
- ✓ Click the Add/Remove Windows Components button on the My Places bar.
- ✓ Enable the Fax Services check box and then follow the instructions to update your installation.
- ✓ After the Fax component is installed, you can start it by clicking Start, All Programs, Accessories, Communications, Fax, Fax Console. The Fax Console dialog box appears

If your fax modem appears in the Print dialog box, you can also send a fax by choosing the fax modem as the printer. You can use this method in other Microsoft Office applications as well.

**To send a fax from Word using Internet Fax Service, do the following:**

- ✓ With the document that you want to fax in the active window, choose File, Send To, and Recipient using Internet Fax Service. An email message window opens in Outlook with the document attached as a . If you have other files that you want to send, you can attach them as well.
- ✓ Fill in the fields to address the fax. You'll be able to send your fax to a fax number or an email address.
- ✓ In the Fax Service pane, select the necessary options.
- ✓ Complete the cover sheet (in the body of the email) message.
- ✓ Click Send.

After the document is scheduled for sending, you can use the fax modem's software to monitor the fax status, check the fax logs, or even cancel the fax if it



hasn't been sent yet. The Fax Console serves the same purpose for Internet Fax Services.

The first time you use the Internet Fax Service option, you are prompted to sign up with an Internet provider. Click OK to open your Web browser so you can locate a provider. By default, Microsoft takes you to the information page for the Venali Internet Fax Service. You can use Venali to send and receive faxes (as attachments to email messages) through Microsoft Outlook 2003 from your desktop, laptop, or wireless device. After you choose a service, close the Web browser and switch back to Word.

## **1.5. Sending Documents via Email**

If you know how to send an email message, you can send Word documents via email. There are two ways to send a document: You can attach the file to the message, or you can send the document as the body of an email message.

If you want to send the entire file as an email attachment, you must be using Microsoft Outlook 2003, Microsoft Outlook Express, Microsoft Exchange, or other MAPI-compatible email programs, such as Juno, Yahoo, or Hot Mail. (MAPI stands for Messaging Application Programming Interface, which Microsoft developed to allow different email programs to work together.)

### **To send the active document as an attachment, do the following:**

- ✓ Choose File, Send To, Mail Recipient (as Attachment)
- ✓ In the to: and Cc: boxes enter the recipient names, separated by semicolons. Alternatively, click the To: and Cc: buttons to select the names from a list
- ✓ If necessary, replace the document name as the subject with something more descriptive.
- ✓ Choose Send

You can also send the document as the body of the email message. One method is to copy and paste the contents of the Word document into the body of an email message. Another method is to use the File, Send To menu option.

To send the active document as the body of a message, follow these steps:

- ✓ Click the E-Mail button or choose File, Send To, Mail Recipient
- ✓ In the to: and Cc: boxes enter the recipient names, separated by semicolons. Alternatively, click the to: and Cc: buttons to select the names from a list.



- ✓ If necessary, replace the document name as the subject with something more descriptive.
- ✓ If you like, type an introduction in the Introduction text box. For example, you might enter instructions for the recipients to follow.
- ✓ Choose Send a Copy

Self-Check -1	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:(2point each)

**Say true or false**

1. Print preview is a feature that displays on the screen what a hard copy will look like.
2. The cost of printing multiple copies on a laser printer is virtually different to the cost of running copies on a copier.

**Note: Satisfactory rating – 2 points**

**Unsatisfactory - 2below points .**

**Answer Sheet**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Short Answer Questions**

Score =

Rating: \_\_\_\_\_



Operation Sheet 1	Preview document/spread sheet in preview
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**Steps to Preview document/spread sheet in preview: or for Printing only**

**Step-1** Choose File, Print (Ctrl+ P) to display the Print dialog box

**Step-2** Change the number in the Number of copies text box

**Step-3** To print the current page, choose Current Page.

**Step-4** To print multiple pages, type the page numbers that you want to print in the Pages text box



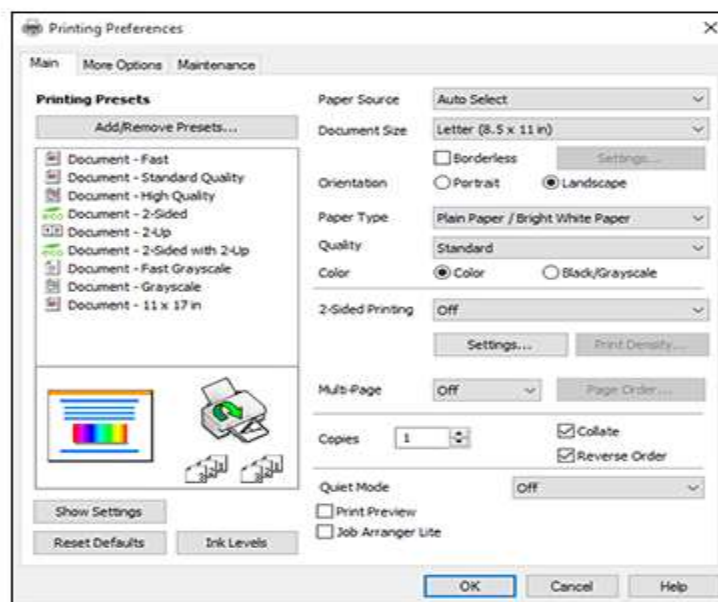
## Information Sheet-2

## Selecting basic print setting

### 2.1. Definition of printing setting

Select the basic settings for the document or photo you want to print

- Open a photo or document for printing.
- Select the print command in your application.
  - ✓ Note: You may need to select a print icon on your screen, the Print option in the File menu, or another command. See your application's help utility for details.
- If necessary, select your product name as the printer you want to use.
  - ✓ Note: You may also need to select Properties or Preferences to view your print settings. You see the Main tab of your printer settings window:



**Figure 110: printer setting**

- ✓ For the Paper Source setting, select where you loaded the paper you want to print on.
- ✓ Select the size of the paper you loaded as the Document Size setting.





- ✓ Note: You can also select the User-Defined setting to create a custom paper size, but you cannot use the Borderless setting.
- ✓ If you are printing a borderless photo, select Borderless. You can click Settings to access additional options for borderless printing.
- ✓ Note: You must select a compatible borderless paper type and size to print without borders. Check the borderless paper compatibility list for details.
- ✓ Select the orientation of your document.
- ✓ Note: If you are printing an envelope, select Landscape.
- ✓ Select the type of paper you loaded as the Paper Type setting.
- ✓ Note: The setting may not exactly match the name of your paper. Check the paper type settings list for details.
- ✓ Select the Quality setting that matches the print quality you want to use.
- ✓ Select a Color option
- ✓ Note: If you are printing an envelope, select Landscape
- ✓ Select the type of paper you loaded as the Paper Type setting.
- ✓ Note: The setting may not exactly match the name of your paper. Check the paper type settings list for details.
- ✓ Select the Quality setting that matches the print quality you want to use.
- ✓ Select a Color option:
  - ❖ To print a color document or photo, select the Color setting.
  - ❖ To print text and graphics in black or shades of gray, select the Black/Gray scale setting.

- **Specify options in the Print Job panel**

- ✓ **Print in draft mode**

You can use Draft Mode Printing to print contact sheets and quick drafts of a photo. In this mode, Light room Classic uses cached photo previews when printing. If you select photos that haven't been fully cached and print them using Draft Mode Printing, Light room Classic sends their thumbnail data to the printer, and the print quality of those photos might not be what you expect. Sharpening and color management controls aren't available using Draft Mode Printing.

- ✓ In the Print Job panel of the Print module, select Draft Mode Printing.



- **Set print resolution**

In the Print module, the Print Resolution setting specifies the pixels per inch (ppi) of the photo for the printer. Light room Classic resamples the image data if needed, depending on the print resolution and the print dimensions. The default value of 240 ppi is satisfactory for most print jobs, including high-end inkjet prints. Refer to your printer's documentation to determine its optimal resolution.

- ✓ In the Print Job panel of the Print module, do either of the following:
  - To control the print resolution, select **Print Resolution** and specify a different value, if necessary.
  - To use the native resolution of the photo (as long as it isn't lower than 72 ppi or higher than 720 ppi), deselect **Print Resolution**.

- **Sharpen a photo for print**

Print Sharpening lets you sharpen the image before it's sent to the printer. Print sharpening is performed in addition to any sharpening that you apply in the Develop module. The amount of print sharpening that is automatically applied is based on the file's output resolution and the output media. When Draft Mode Printing is enabled, Print Sharpening is disabled. In most cases, you can leave Print Sharpening set to its default option, Low.

**In the Print Job panel of the Print module, do one of the following:**

(Optional) Select Print Sharpening and specify Low, Standard, or High sharpening using the pop-up menu on the right. Then, specify whether you are printing to Matte or Glossy media. Matte includes watercolor, canvas, and other non-shiny types of paper. Glossy includes luster, semi gloss, photo gloss, and other shiny types of paper.

**Note:**

The paper type specified in the Print Job panel is used to calculate print sharpening. Some printer drivers may also include a paper type option in the Print dialog box that must be specified separately.

Deselect **Print Sharpening** if you don't want any sharpening applied in the Print module. This option is useful when the sharpening you have applied in the Develop module produces the desired results.

- **Print 16-bit color**

In the Print Job panel, select **16 Bit Output** if you are printing to a 16-bit printer under Mac OS 10.5 (Leopard) or higher.



- **Set print color management**

You can specify whether light room Classic or the printer driver handles color management during printing. If you want to use a custom printer color profile created for a specific printer and paper combination, Light room Classic handles the color management. Otherwise, the printer manages it. If Draft Mode Printing is enabled, the printer automatically handles color management.

**Note:**

Custom printer color profiles are usually created using special devices and software that generate the profile files. If printer color profiles are not installed on your computer or if Light room Classic cannot locate them, Managed by Printer and Other are the only options available in the Profile area of the Print Job panel.

In the Color Management area of the Print Job panel, choose one of the following from the Profile pop-up menu: To use a printer color profile to convert the image before sending it to the printer, choose a specific RGB profile listed in the menu.

**Note:**

If you choose a custom printer color profile in light room Classic, make sure color management is turned off in the printer driver software. Otherwise, your photos will be color-converted twice, and the colors might not print as you expect. See your printer's documentation for instructions on turning off color management in the driver software. Light room Classic does not recognize printer profiles.

- ✓ To send the image data to the printer driver without first converting the image
- ✓ According to a profile, choose Managed By Printer.
- ✓ To select printer profiles to appear in the Profile pop-up menu, choose Other and then select the color profiles in the Choose Profiles dialog box.

**Note:**

Generally, you'll choose this option if no profiles are listed in the Profile pop-up menu, or if the profile you want isn't listed. Light room Classic tries to find custom print profiles on your computer. If it's unable to locate any profiles, choose Managed By Printer and let the printer driver handle the print color managing.

If you specify a profile, choose a rendering intent to specify how colors are converted from the image's color space to the printer's color space:

**Perceptual**

Perceptual rendering tries to preserve the visual relationship between colors. Colors that are in-gamut may change as out-of-gamut colors are shifted to reproducible colors. Perceptual rendering is a good choice when your image has many out-of gamut colors.



### **Relative**

Relative rendering preserves all in-gamut colors and shifts out-of gamut colors to the closest reproducible color. The Relative option preserves more of the original color and is a good choice when you have few out-of-gamut colors.

### **Note:**

The printer's color space will generally be smaller than the image's color space, often resulting in colors that can't be reproduced. The rendering intent you choose attempts to compensate for these out-of-gamut colors.



Self-Check -2	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:(2point each)

**Say true or false**

1. Custom printer color profiles are usually created using special devices.
2. The paper type specified in the Print Job panel is used to calculate print sharpening.

**Note: Satisfactory rating – 2 points**  
**Answer Sheet**

**Unsatisfactory - 2below points .**

Name: \_\_\_\_\_

**Short Answer Questions**

Score =

Rating: \_\_\_\_\_

Date: \_\_\_\_\_



<b>Operation Sheet 2</b>	<b>Selecting basic print setting</b>
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**Selecting basic print setting procedures**

**Step-1** Open a photo or document for printing

**Step-2** Select the print command in your application

**Step-3** If necessary, select your product name as the printer you want to use

**Step-4** Select the orientation of your document

**Step-5** Select the type of paper you loaded as the Paper Type setting

**Step-6** Select the Quality setting that matches the print quality you want to use.

**Step-7** Select a Color option



### Information Sheet-3

### Printing document/spread sheet

#### 3.1. Introduction

This course covers one of the most often performed tasks in Excel, but one that is not fully understood even by experienced, capable professionals. Learn to print a spreadsheet of almost any size starting with the first video. The course is only seven videos long and lasts about thirty minutes. Why thirty minutes just to learn how to print? Well, software developers often provide a number of ways to perform the same task, and that is the case with printing a spreadsheet in Excel. Also, some of these known ways can be combined to achieve the results we wish. Lastly, some methods may be more preferred by You, and so I did not wish to leave that out.

- **Print a worksheet or workbook**

You can print entire or partial worksheets and workbooks, one at a time, or several at once. And if the data that you want to print is in a Microsoft Excel table, you can print just the Excel table.

You can also print a workbook to a file instead of to a printer. This is useful when you need to print the workbook on a different type of printer from the one that you originally used to print it

- **Before you print**

Before you print anything in Excel, do remember that there are many options available for an optimal print experience.

**Important:** Some formatting, such as colored text or cell shading, may look good on the screen but not look how you expect when it prints on a black-and-white printer. You may also want to print a worksheet with gridlines displayed so that the data, rows, and columns stand out better.

#### 3.2. To Print one or several worksheets follow the procedures:

- Select the worksheets that you want to print.
- Click File > Print, or press CTRL+P.
- Click the Print button or adjust Settings before you click the Print button.

### Print one or several workbooks

All workbook files that you want to print must be in the same folder.

- ✓ Click File > Open.
- ✓ Hold down CTRL click the name of each workbook to print, and then click Print.

### Print all or part of a worksheet

- ✓ Click the worksheet, and then select the range of data that you want to print.
- ✓ Click File, and then click Print.
- ✓ Under Settings, click the arrow next to Print Active Sheets and select the appropriate option.

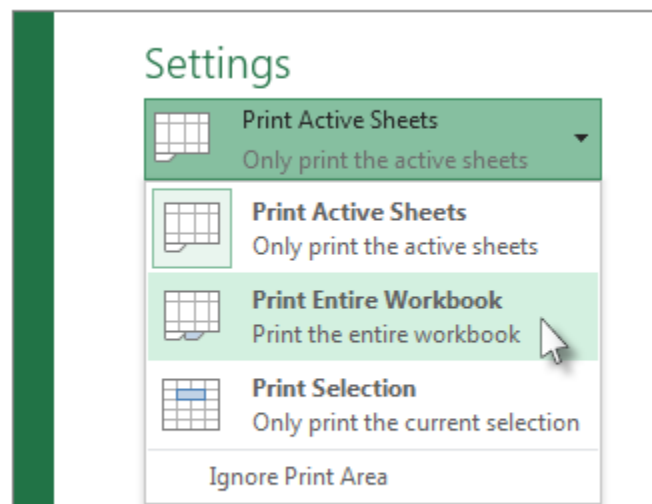


Figure 111: print all /print selection

- **Click Print.**

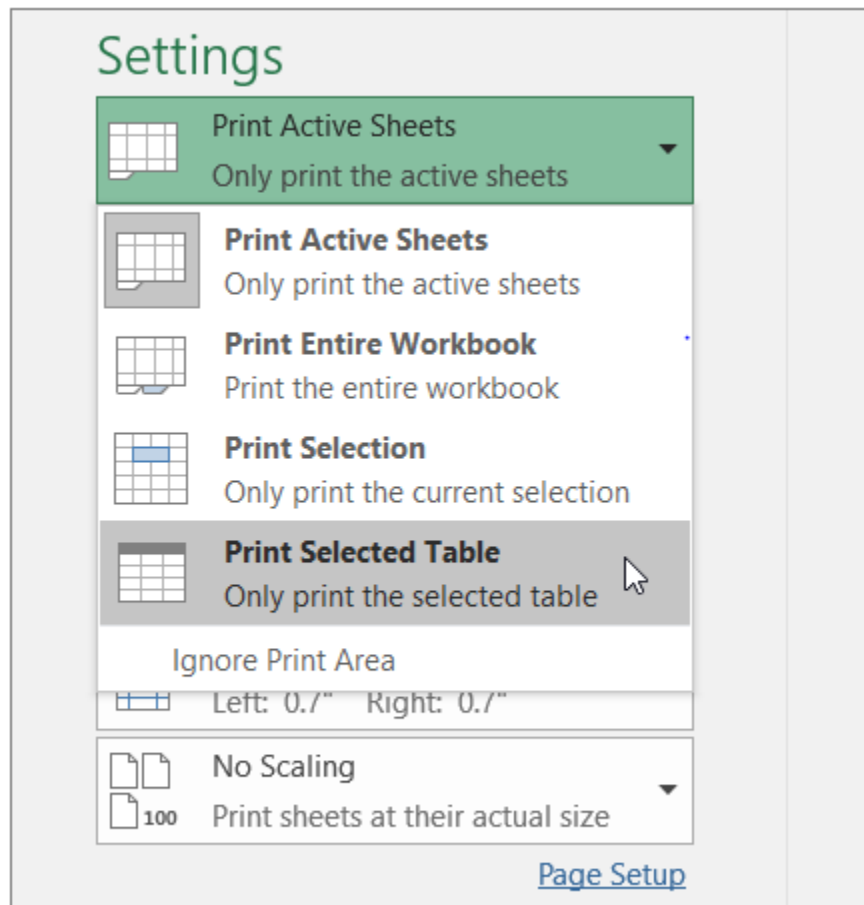
**Note:** If a worksheet has defined print areas, Excel will print only those print areas. If you don't want to print only the defined print area, select the Ignore print area check box. Learn more on setting or clearing a print area.

- **Print an Excel table**

- ✓ Click a cell within the table to enable the table
- ✓ Click File, and then click Print



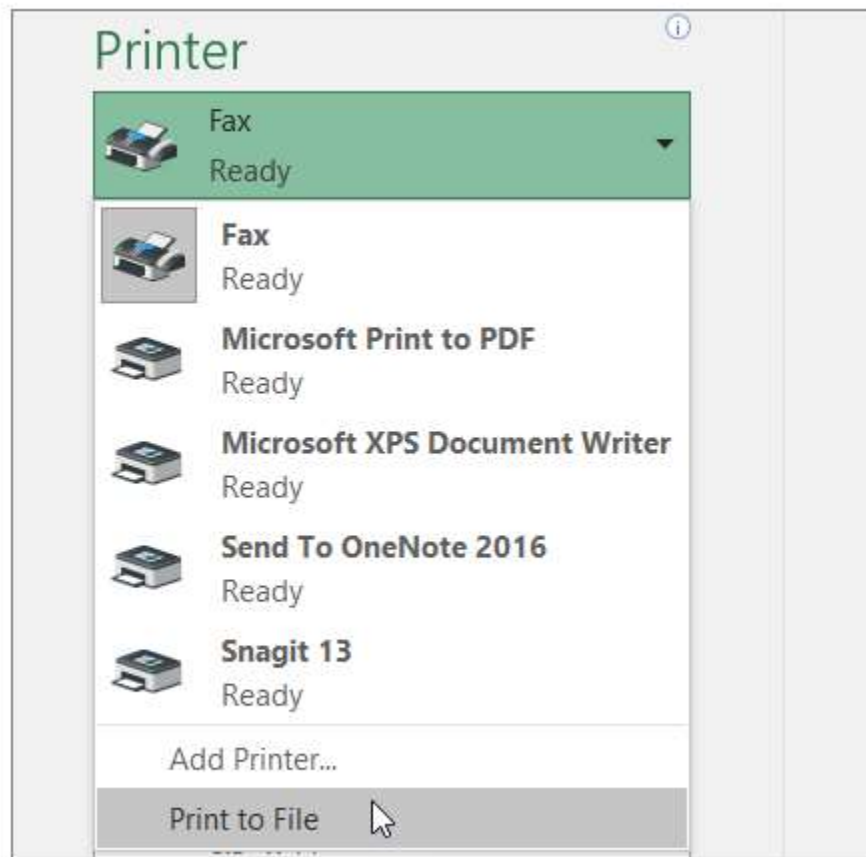
- ✓ Under Settings, click the arrow next to Print Active Sheets and select Print Selected 4.
- ✓ Click **Print**.



**Figure 112: Excel tab**

### **3.3. Print a workbook to a file**

- ✓ Click File, and then click Print, or press Ctrl+ P.
- ✓ Under Printer, select Print to File



**Figure 113: printer**

- ✓ Click Print
- ✓ In the Save Print Output As dialog box, enter a file name and then click OK

### **3.4. Printing Excel Documents**

Imagine you just spent the entire day working on an Excel workbook for your boss. It's full of data and looks great. The formatting is done nicely. It's well organized and up-to-date. The boss would like a hard copy, so you print the document, and it looks awful. Not only that, only one page printed.

Excel spreadsheets don't always look that great on the printed page. Usually because the content just doesn't fit an 8-1/2 X 11 piece of paper. Spreadsheets are used for data - lots of data. We add formulas, figures, text and titles. The application is built so that you can have hundreds of columns and rows. In other words, you can make it as big as you need it to be. As a result, when you go to



print, the hard copy or printed page doesn't look anything like what you see on the screen.

This lesson will explain the steps to printing a workbook from MS Excel. I will also share some tips to printing Excel documents.

- **Workbook vs. Worksheet**

Before we look at the steps, let's review the difference between the term 'worksheet' and 'workbook'. A workbook is the entire Excel file. Some refer to their Excel file as a spreadsheet, but technically, A Spreadsheet is one page in a workbook, which is called a worksheet. This means that you can have multiple spreadsheets, or worksheets, within a workbook.

Excel gives you many options in order to print just what you want. You can print a part of a worksheet, an entire worksheet, selected worksheets or the entire workbook.

- **How to Print an Excel Workbook**

Now let's take a look at how to print the entire workbook. In the lesson video, we have a workbook for the Smith Family Budget. If you look across the bottom of the spreadsheet, you will see a worksheet for 2012, 2013 and 2014:

Keep in mind the terms we just learned. Each year is a worksheet, and all the years make up a workbook.

- **Steps to print in Excel:**

- ✓ Open the workbook that you want to print.
- ✓ Go to the File menu in the ribbon.
- ✓ Click on the Print command.
- ✓ Look in the Settings options.
- ✓ Change Print Active Sheets to Print Entire Workbook (Excel always defaults to Active Sheets).
- ✓ Click on the Print button.

**To Shrink or Expand a Spreadsheet Image:**

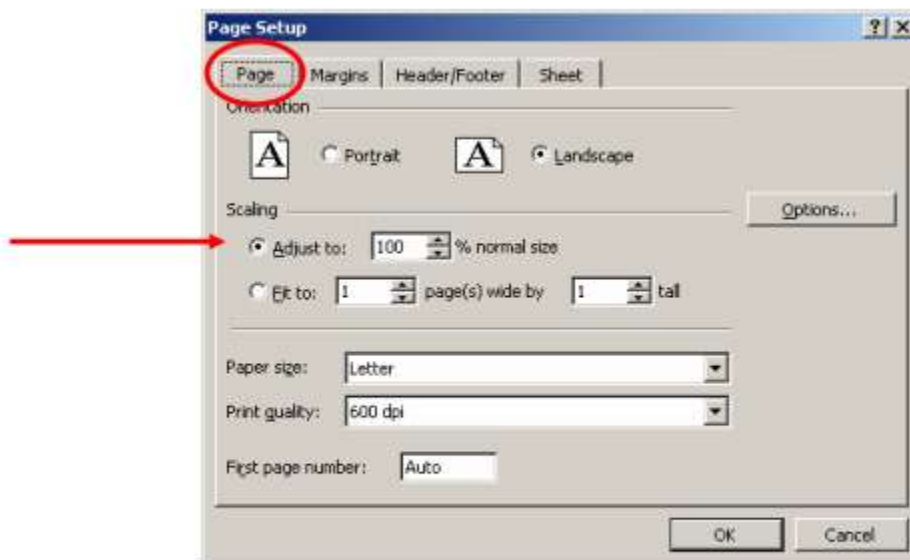
1. Click on File and select Print Preview or click on the Print Preview icon
2. Click on Setup

This is an example of how a smaller sized spreadsheet will print on a page before changing any of the printing specifications

## Scaling

### To Scale an Image:

- ✓ Click on the Page tab
- ✓ 2) Increase the Adjust to size under Scaling by either typing it or using the up arrow
- ✓ Click OK to view the changes in Print Preview



**Figure 114: Scaling set up**



<b>Self-Check -3</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the page (2point each)

**Say true or false**

1. A workbook is the entire Excel file.
2. A Spreadsheet is one page in a workbook.

**Note: Satisfactory rating - 1 points**

**Unsatisfactory - below 1 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score =
Rating: _____

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Short Answer Question**



<b>Operationsheet-3</b>	<b>Printing document/spread sheet</b>
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**Steps to Printing document/spread sheet or Steps to print in Excel:**

**Step-1** Open the workbook that you want to print

**Step-2** Go to the File menu in the ribbon

**Step-3** Click on the Print command

**Step-4** Look in the Settings options

**Step-5** Change Print Active Sheets to Print Entire Workbook

**Step-6** Click on the Print button



<b>Information sheet-4</b>	<b>Submit spread sheet to appropriate person</b>
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## 4.1. Introduction

Spread sheets for all of their mundane rectangularness have been the subject of angst and controversy for decades. Some writers have admonished that “real programmers don’t use spread sheets” and that we must “stop that subversive spread sheet”.

For an existing dataset whose arrangement could be improved, we recommend against applying tedious and potentially error-prone hand-editing to revise the arrangement.

The reader might apply these principles when designing the layout for future datasets:

- **Be Consistent**

The first rule of data organization is be consistent. Whatever you do, do it consistently. Entering and organizing your data in a consistent way from the start will prevent you and your collaborators from having to spend time harmonizing the data later.

Use consistent codes for categorical variables. For a categorical variable like the sex of a mouse in a genetics study, use a single common value for males (e.g., “male”), and a single common value for females (e.g., “female”). Do not sometimes write “M,” sometimes “male,” and sometimes “Male.” Pick one and stick to it.

Use a consistent fixed code for any missing values. We prefer to have every cell filled in, so that one can distinguish between truly missing values and unintentionally missing values. R users prefer “NA.” You could also use a hyphen. But stick with a single value throughout. Definitely do not use a numeric value like -999 or 999; it is easy to miss that it is intended to be missing. Also, do not insert a note in place of the data, explaining why it is missing. Rather, make a separate column with such notes.

Use consistent variable names. If in one file (e.g., the first batch of subjects), you have a variable called “Glucose\_10wk,” then call it exactly that in other files (e.g., for other batches of subjects). If it is variably called “Glucose\_10wk,” “gluc\_10weeks,” and “10 week glucose,” then downstream the data analyst will have to work out that these is all really the same thing.

Use consistent subject identifiers. If sometimes it is “153” and sometimes “mouse153” and sometimes “mouse-153F” and sometimes “Mouse153,” there is going to be extra work to figure out who is who.



Use a consistent data layout in multiple files. If your data are in multiple files and you use different layouts in different files, it will be extra work for the analyst to combine the files into one dataset for analysis. With a consistent structure, it will be easy to automate this process.

Use consistent file names. Have some system for naming files. If one file is called “Serum\_batch1\_2015-01-30.csv,” then do not call the file for the next batch “batch2\_serum\_52915.csv” but rather use “Serum\_batch2\_2015-05-29.csv.” Keeping a consistent file naming scheme will help ensure that your files remain well organized, and it will make it easier to batch process the files if you need to.

Use a consistent format for all dates, preferably with the standard format YYYY-MM-DD, for example, 2015-08-01. If sometimes you write 8/1/2015 and sometimes 8-1-15, it will be more difficult to use the dates in analyses or data visualizations.

Use consistent phrases in your notes. If you have a separate column of notes (e.g., “dead” or “lo off curve”), be consistent in what you write. Do not sometimes write “dead” and sometimes “Dead,” or sometimes “lo off curve” and sometimes “off curve lo.”

Be careful about extra spaces within cells. A blank cell is different than a cell that contains a single space. And “male” is different from “male” (i.e., with spaces at the beginning and end).

#### **4.2. Choose Good Names for Things**

It is important to pick good names for things. This can be hard, and so it is worth putting some time and thought into it's a general rule, do not use spaces, either in variable names or file names. They make programming harder: the analyst will need to surround everything in double quotes, like “glucose 6 weeks”, rather than just writing glucose 6weeks. Where you might use spaces, use underscores or perhaps hyphens. But do not use a mixture of underscores and hyphens; pick one and be consistent.

#### **4.3. Write Dates**

When entering dates, we strongly recommend using the global “ISO 8601” standard.

We often prefer to use a plain text format for columns in an Excel worksheet that are going to contain dates, so that it does not do anything to them. To do this

- ✓ Select the column
- ✓ In the menu bar, select Format → Cells
- ✓ Choose “Text” on the left



- **No Empty Cells**

Fill in all cells. Use some common code for missing data, or even a hyphen in the cells with missing data, to make it clear that the data are known to be missing rather than unintentionally left blank.

	A	B	C	D	E
1	strain	genotype	min	replicate	response
2	A	normal	1	1	147
3	A	normal	1	2	139
4	B	normal	1	1	246
5	B	normal	1	2	240
6	A	mutant	1	1	166
7	A	mutant	1	2	179
8	B	mutant	1	1	178
9	B	mutant	1	2	172
10	A	normal	5	1	334
11	A	normal	5	2	354
12	B	normal	5	1	514
13	B	normal	5	2	611
14	A	mutant	5	1	451
15	A	mutant	5	2	474
16	B	mutant	5	1	412
17	B	mutant	5	2	447

**Figure 115: A tidy version of the dat**

- **Put Just One Thing in a Cell**

The cells in your spreadsheet should each contain one piece of data. Do not put more than one thing in a cell.

For example, you might have a column with “plate position” as “plate-well,” such as “13-A01.” It would be better to separate this into “plate” and “well” columns (containing “13” and “A01”), or even “plate,” “well row,” and “well column” (containing “13,” “A,” and “1”). Or you might be tempted to include units, such as “45 g.” It is better to write 45 and put the units in the column name, such as body weight g.

- **Make it a Rectangle**

The best layout for your data within a spreadsheet is as a single big rectangle with rows corresponding to subjects and columns corresponding to variables. The first row should

contain variable names, and please do not use more than one row for the variable names.

	A	B	C	D	E
1	id	sex	glucose	insulin	triglyc
2	101	Male	134.1	0.60	273.4
3	102	Female	120.0	1.18	243.6
4	103	Male	124.8	1.23	297.6
5	104	Male	83.1	1.16	142.4
6	105	Male	105.2	0.73	215.7

**Figure 116: An example spreadsheet with a rectangular layout**

- **Create a Data Dictionary**

It is helpful to have a separate file that explains what all of the variables are. It is helpful if this is laid out in rectangular form, so that the data analyst can make use of it in analyses.

Such a “data dictionary” might contain:

- ✓ The exact variable name as in the data file
- ✓ A version of the variable name that might be used in data visualizations
- ✓ A longer explanation of what the variable means
- ✓ The measurement units
- ✓ Expected minimum and maximum values

Note that this is a rectangular dataset, like any other. The first column contains the variable names. The second column is a more readable version, as might be used in data visualizations. The third column groups the variables into different categories, which might also be used in data visualizations.

	A	B	C	D
1	name	plot_name	group	description
2	mouse	Mouse	demographic	Animal identifier
3	sex	Sex	demographic	Male (M) or Female (F)
4	sac_date	Date of sac	demographic	Date mouse was sacrificed
5	partial_inflation	Partial inflation	clinical	Indicates if mouse showed partial pancreatic inflation
6	coat_color	Coat color	demographic	Coat color, by visual inspection
7	crumblers	Crumblers	clinical	Indicates if mouse stored food in their bedding
8	diet_days	Days on diet	clinical	Number of days on high-fat diet

**Figure 117: An example data dictionary.**

#### 4.4. No Calculations in the Raw Data Files

Often, the Excel files that our collaborators send us include all kinds of calculations and graphs. We feel strongly that your primary data file should contain *just the data* and nothing else: no calculations, no graphs. If you are doing calculations in your data file, that likely means you are regularly opening it and typing into it. Doing so incurs some risk that you will accidentally type junk into your data.

If you are doing calculations in your data file, that likely means you are regularly opening it and typing into it. Doing so incurs some risk that you will accidentally type junk into your data. Your primary data file should be a pristine store of data. Write-protect it, back it up, and do not touch it. If you want to do some analyses in Excel, make a copy of the file and do your calculations and graphs in the copy.

- **Do Not Use Font Color or Highlighting as Data**

You might be tempted to highlight particular cells with suspicious data, or rows that should be ignored. Or the font or font color might have some meaning. Instead, add another column with an indicator variable (e.g. “Trusted” with values TRUE or FALSE).

A				B				
	A	B	C		A	B	C	D
1	id	date	glucose	1	id	date	glucose	outlier
2	101	2015-06-14	149.3	2	101	2015-06-14	149.3	FALSE
3	102	2015-06-14	95.3	3	102	2015-06-14	95.3	FALSE
4	103	2015-06-18	97.5	4	103	2015-06-18	97.5	FALSE
5	104	2015-06-18	1.1	5	104	2015-06-18	1.1	TRUE
6	105	2015-06-18	108.0	6	105	2015-06-18	108.0	FALSE
7	106	2015-06-20	149.0	7	106	2015-06-20	149.0	FALSE
8	107	2015-06-20	169.4	8	107	2015-06-20	169.4	FALSE

**Figure 118: Highlighting in spreadsheets**

Another possible use of highlighting would be to indicate males and females in a mouse study by highlighting the corresponding rows in different colors. But rather than use highlighting to indicate sex, it is better to include a sex column, with values Male or Female.

- **Make Backups**

Make regular backups of your data. In multiple locations. And consider using a formal version control system, like git, though it is not ideal for data file. Keep all versions of the data files, so that if something gets corrupted (e.g., you accidentally type over some of the data and do not notice it until much later), you will be able to go back and fix it. Before you start inserting more data, make a copy of the file with a new version number: file\_v1.xlsx, file\_v2.xlsx.

When you are not actively entering data, and particularly when you are done entering data, write-protect the file. That way, you will not accidentally change things.

- **Use Data Validation to Avoid Errors**

Regarding the task of data entry, it is important to ensure that the process is as error-free and repetitive-stress-injury-free as possible. One useful tool for avoiding data entry errors is the “data validation” feature in Excel.

To control the type of data or the values that users can be:

- ✓ Select a column
- ✓ In the menu bar, choose Data → Validation
- ✓ Choose appropriate validation criteria. For example,

At the same time, you could select particular data types for the column, such as text, to avoid having dates (or transcription factor names!) get mangled by Excel. We mentioned this before in the discussion of dates, but it is worth repeating:



- ✓ Select the column
- ✓ In the menu bar, select Format → Cells
- ✓ Choose “Text” on the left

- **Save the Data in Plain Text Files**

Keep a copy of your data files in a plain text format, with comma or tab delimiters. We generally use comma-delimited files.

If any of the cells in your data include commas, Excel will put double-quotes around the contents of each cell when it is saved in CSV format. That requires slightly more finesse to deal with, but it is generally not a concern

**To save an Excel file as a comma-delimited file:**

- ✓ From the menu bar, File → Save As
- ✓ Next to “Format:,” click the drop-down menu and select “Comma Separated Values (CSV)”
- ✓ Click “Save”
- ✓ Excel will say something like, “This workbook contains features that will not work...”. Ignore that and click “Continue.”
- ✓ Quit Excel. It will ask you, “Do you want to save the changes you made?” Click “Don’t Save,” because you just saved them. (Excel really does not want you to use a format other than its own



Self-Check -4	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the page:

**Say true or false**

1. The first rule of data organization is being consistent.
2. Spreadsheet programs are used to calculate calculation only.

**Note: Satisfactory rating - 1 points**

**Unsatisfactory - below 1point**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

**Score =**

**Rating: \_\_\_\_\_**

**Name: \_\_\_\_\_**

**Date: \_\_\_\_\_**

**Short Answer Question**



<b>Operationsheet-4</b>	<b>Submitting spread sheet to appropriate person</b>
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**Steps to submit spread sheet to appropriate person:**

- Step-1** Choose a good font
- Step-2** Align your data
- Step-3** Give your data some space
- Step-4** Define your headers
- Step-5** Choose your colors carefully
- Step-6** Shade alternate rows for read ability
- Step-7** Use Grids Sparingly
- Step-8** Create cell styles for consistency
- Step-9** Use Conditional Cell Formatting



LAP Test	Practical Demonstration
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**Instructions:** Given necessary templates, tools and materials you are required to perform the following tasks within --- hour.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

**Task-1.**Preview document/ spread sheet in print preview mode

**Task-2** Select basic print settings/ options

**Task-3** Print document/spread sheet

**Task-4** Submit spread sheet to appropriate person





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