

Computer Applications

LAB JOURNAL

Name: _____

Enrollment No: _____

EXPERIMENT 01

Introduction to Web Development

Objectives

To develop a basic web site.

Equipment /tool Used

- Computer with any version of windows installed

Background

Internet is a ‘Network of Networks’.

On the Internet, a website is represented by a URL (uniform resource locator). **World Wide Web (WWW)**, also abbreviated as the web, is a system of interlinked hypertext documents that may be viewed through a web browser. Web can be accessed through web browsers like Internet Explorer, Google Chrome and Mozilla Firefox etc. To understand how WWW works, it’s important to first define what hypertext documents are.

Hypertext:

“*Hypertext* most often refers to text on a computer that will lead the user to other, related information on demand. Hypertext allows a form of user interface, which overcomes some of the limitations of written text. Rather than remaining static like traditional text, hypertext makes possible a dynamic organization of information through links and connections (called hyperlinks). Hypertext can be designed to perform various tasks; for instance, when a user "clicks" on it or "hovers" over it, a bubble with a word definition may appear, a web page on a related subject may load, a video clip may run, or an application may open.” [\[Wikipedia\]](#)

HTML:

HTML is a hypertext *markup* language that is used to describe the structure of a webpage using tags. A web browser, an application that understands HTML tags and displays web pages accordingly, utilizes the HTTP protocol to receive HTML pages from a web server (also called HTTP server).

It is important to note that the display of an HTML page in a browser is not the same text that we see if we were to edit the HTML page in a text editor. This is because the HTML file itself contains many instructions/ tags that are not displayed in the browser. The function of these tags/ information is simply to enable a browser to display the HTML file. This should become clear as we go through the exercises.

Let’s develop a basic website

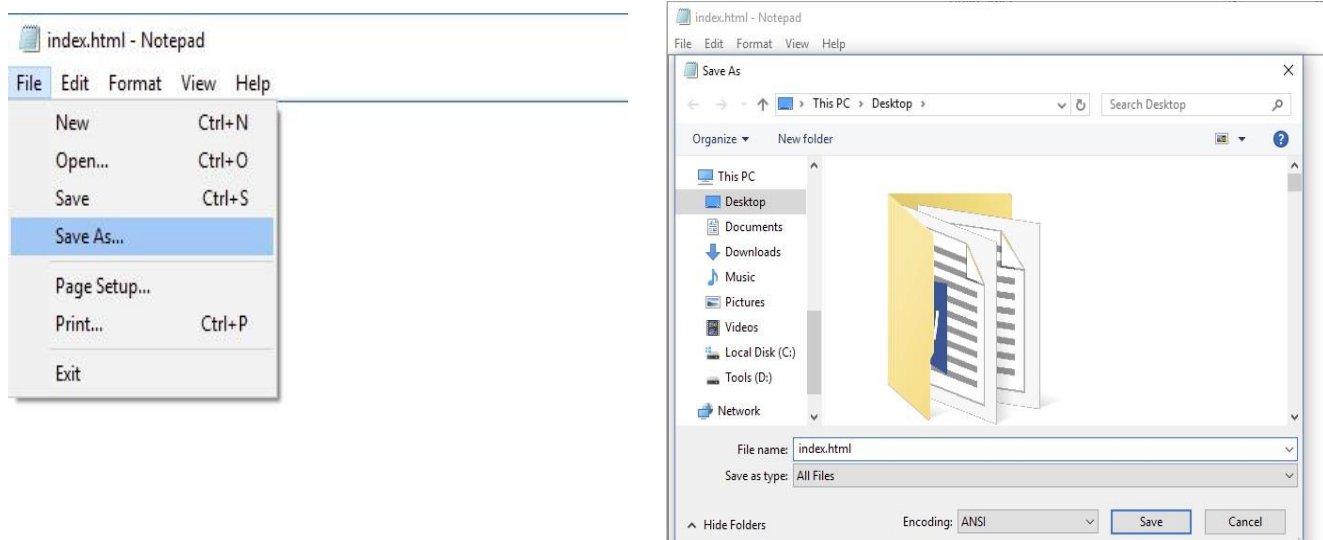
Part I---Creating directory/ index.html and format.css files

- In this part, we will create a directory in which we will save today's lab work. We will also learn how to create and save *index.html* and *format.css* files.
- On the desktop, create a folder named ITCLab3

[Hint: this can be done by right clicking on the desktop, and then choosing New and then Folder]

- Create an index.html.
- Open the Notepad application. [Start > Programs > Accessories > Notepad]
- Save the empty file as index.html by clicking on the File menu of the Notepad.

On the file menu, choose "Save As". The "Save As" window will appear as shown below:



In a similar manner, create the format.css file. *[We will later see how this file is used]*

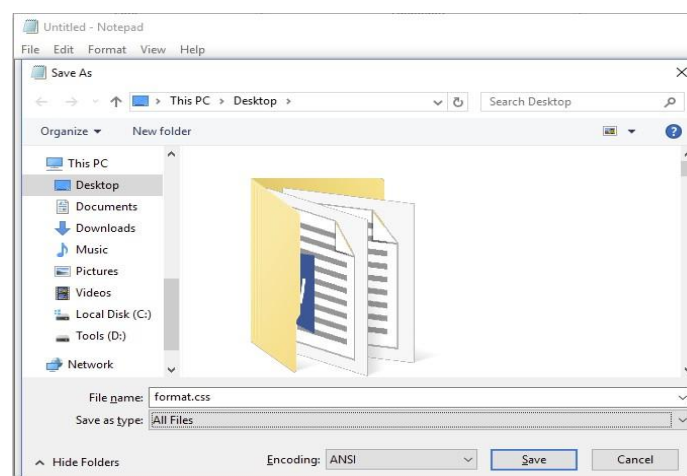


Figure: 3.1 Save As

Save the empty file as index.html on the Desktop. [We will use the Desktop as HTML playground, and once the files have been finalized, then they will be transferred to the ITCLab2 folder.] To save the file as index.html, index.html must be written as the file name with the “Save as type” set to *All Files*.

- **Note:** As explained the “Save as type” should be set to *All Files*, if the “Save as type” field is set to *Text Documents (*.txt)* then the file would be saved as index.html.txt and not as index.html.

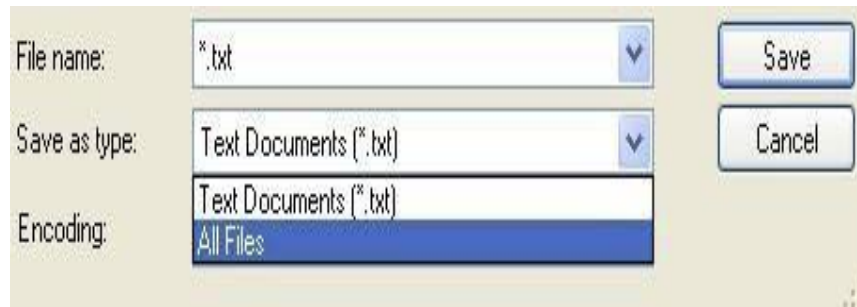


Figure: 3.2 Save As-All Files

Part II--- HTML Basics

1. Writing the HTML basic tags

Open the index.html file on the Desktop and enter the `<html>` and `</html>` tags on the file. Note that in HTML, tags often (but not always) follow the convention that there is an opening tag and a closing tag. The opening tag in our context is `<html>` and the closing tag is `</html>`. These tags are used to inform the browser that the text between these tags is formatted according to HTML guidelines. The `<html>` tags are displayed in the figure below.

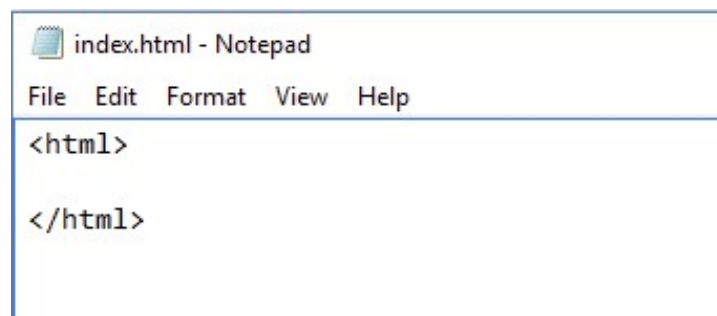


Figure: 3.3 Index.html

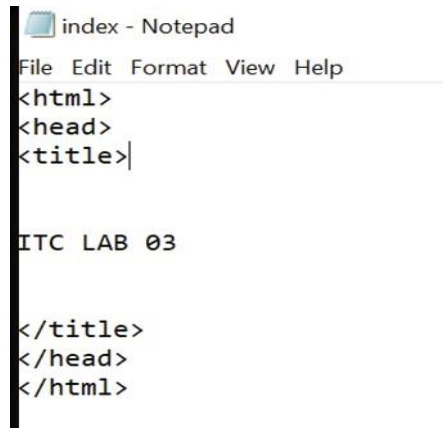
- In the figure above, we do not have any HTML code in between the `<html>` tags. We will now start to code the HTML page.

2. Inserting the title of the web page

We will, first of all, learn the `<head>` tag and the `<title>` tag.

- The **head** element (text between the *head* tags) contains general information, also called metainformation, about a document. The **title** (text between the *title* tags) is not part of the text of the document but is a property of the whole document. It may not

- contain anchors, paragraph marks, or highlighting. The title may be used to identify the node in a history list, to label the window displaying the node, etc.
- We will name the title of our webpage as ITC lab 03. Note how the title text is enclosed in the **head** tags and the **title** tags.



```
index - Notepad
File Edit Format View Help
<html>
<head>
<title>ITC LAB 03
</title>
</head>
</html>
```

Figure: 3.4 Head and Title Tag

Open the index.html file on the Desktop (modified as above) with Internet Explorer (this can be done by simply double clicking on the index.html file). You will find that the Internet Explorer displays “ITC Lab 03” as the title of the web page as configured in the figure above. The webpage is still empty as we have not added any text in the main page’s body yet (we will do that soon).

For now, the index.html page should look like the following.

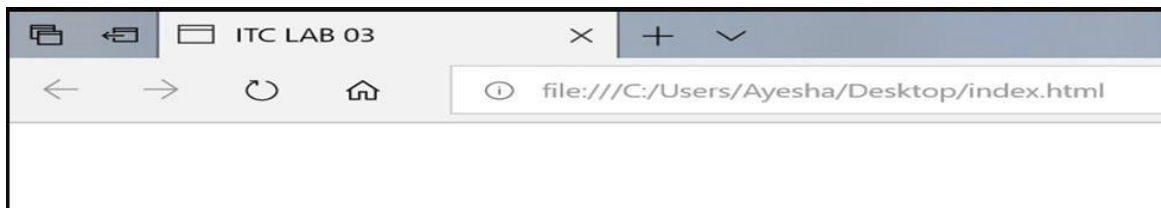
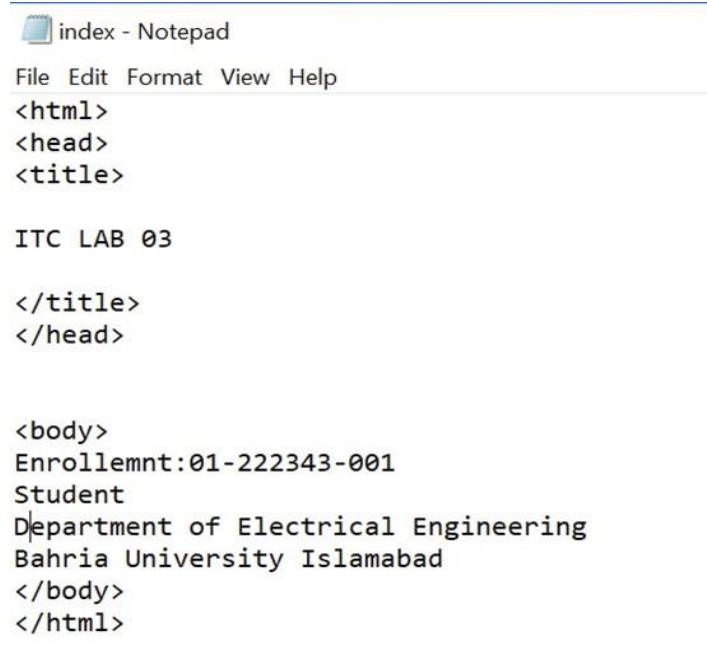


Figure: 3.5 Head and Title Tag Display

- Copy the index.html into the ITCLab3 folder on Desktop and rename it as **Title.html**. [*Hint:* a file can be renamed by selecting, right clicking, and choosing the rename option.]

3. Inserting text in a HTML page

- We will now add text to the main body of the HTML page. This is done using the **<body>** and **</body>** tags. The text contained between the **<body>** and **</body>** tags is displayed by a browser unlike data that is contained between the **<head>** **</head>** tags.
- Add the text contained in the following figure in the index.html file on the Desktop. Save the file when done. The index.html file on Desktop should look like the following.



```
index - Notepad
File Edit Format View Help
<html>
<head>
<title>

ITC LAB 03

</title>
</head>

<body>
Enrollemnt:01-222343-001
Student
Department of Electrical Engineering
Bahria University Islamabad
</body>
</html>
```

Figure: 3.6 Inserting Text

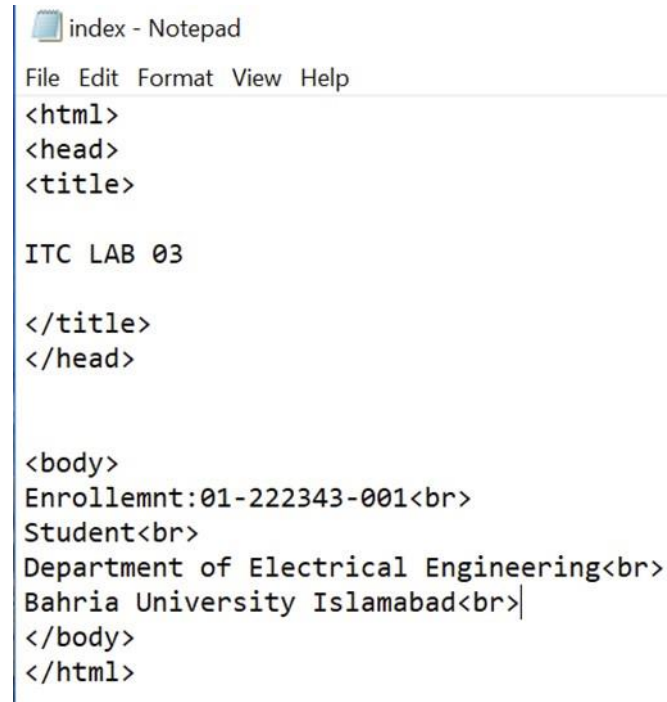
- After saving the index.html file on Desktop, open the file in a browser (by double clicking on the file). If the index.html file is properly configured, the browser display should be as follows. You will notice that all there is no line break, and all the text we had put between the <body> tags is on one line.
- A browser has to be told by HTML tags where line breaks, new paragraphs, etc. should occur. Since we have not used those tags yet, all the text is on one line as shown in the figure below.
- Save the index.html file on the Desktop in the ITCLab3 folder as **Allon1line.html**.



Figure: 3.7 Inserting Text Display

4. Inserting a line-break

- We will now use the **
** HTML tag to introduce line breaks. This tag does not have a corresponding close tag and is used for introducing line breaks.
- Open the index.html file on the Desktop and make the changes highlighted in the following figure.



```
<html>
<head>
<title>

ITC LAB 03

</title>
</head>

<body>
Enrollemnt:01-222343-001<br>
Student<br>
Department of Electrical Engineering<br>
Bahria University Islamabad<br>
</body>
</html>
```

Figure: 3.8 Inserting Line Break

- After making the changes, save the index.html file and open it using a browser. The browser should display the page with proper line breaks as shown in the figure below. You will see that all the text is not on the same line any more.



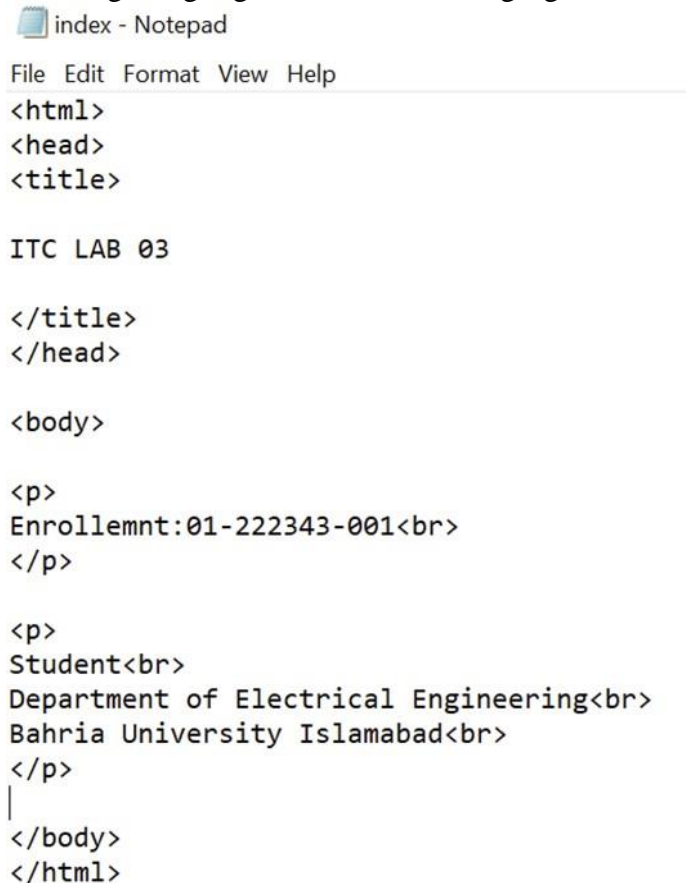
Figure: 3.9 Inserting Line Break Display

- If you see the browser display as above, save the index.html file on the Desktop to the folder ITCLab3 as **Linebreak.html**.

5. Insert a paragraph

- In the figure above, all the text is in a single paragraph (although separated by line breaks). To start a new paragraph, the HTML tag **<p>** should be used. The tag **<p>** is used to mark the start of a paragraph, and the end of paragraph is marked by **</p>**.

- To observe how a paragraph is formatted in HTML, open the index.html file on the Desktop. Make the changes highlighted in the following figure and then save the file.



```

index - Notepad
File Edit Format View Help
<html>
<head>
<title>

ITC LAB 03

</title>
</head>

<body>

<p>
Enrollemnt:01-222343-001<br>
</p>

<p>
Student<br>
Department of Electrical Engineering<br>
Bahria University Islamabad<br>
</p>
|
</body>
</html>

```

Figure: 3.10 Inserting Paragraph

- Open the index.html file on the Desktop (modified with the changes highlighted above) with a browser. You will see now that the web page is composed of two paragraphs. The second paragraph also has line breaks within the paragraph. The browser display should look like the following.



Figure: 3.11 Inserting Paragraph Display

- If you see the browser display as above, save the index.html page on the Desktop to the ITCLab3 folder and name it as **Paragraph.html**.

6. Inserting headings

In the index.html file on the Desktop, currently no text is highlighted as a heading. If certain text is to be a heading, the HTML tags `<h1></h1>`, `<h2></h2>`, `<h3></h3>`, `<h4></h4>` (and so on) may be used. The tag `<h1>` is used for bigger sized heading with the heading size decreasing for `<h2>` `<h3>` and so on.

Open the index.html file on the Desktop and make the changes highlighted in the following figure. The first paragraph is highlighted using the `<h1>` tags.

```
File Edit Format View Help
<html>
<head>
<title>

ITC LAB 03

</title>
</head>

<body>

<p>
<h1>
Enrollemnt:01-222343-001<br>
</h1>
</p>

<p>
Student<br>
Department of Electrical Engineering<br>
<h2>
Bahria University Islamabad<br>
</h2>
|
</p>

</body>
</html>
```

Figure: 3.12 Inserting Headings

- After making the changes in the index.html file on the Desktop as shown above, save the file. Open the file now with a browser. The browser display should look like the following. You will note that the first paragraph now highlighted as a heading with a large sized font.

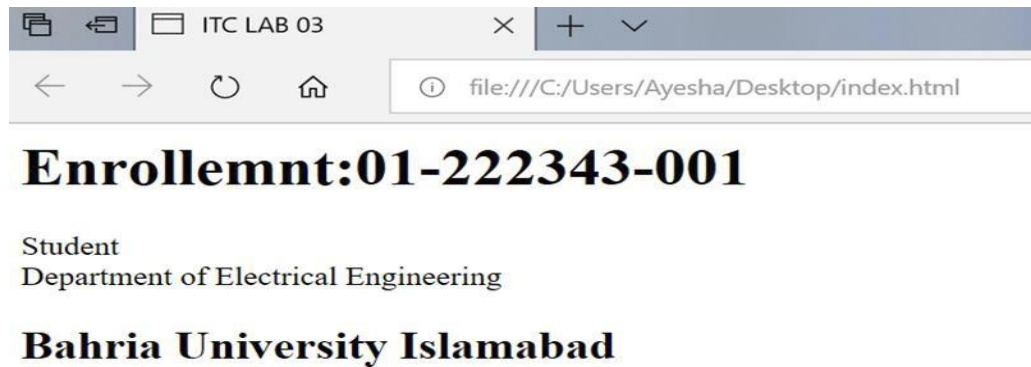


Figure: 3.13 Inserting Headings Display

7. Inserting a hyperlink

We will now add a hyperlink on the index.html file. Open the index.html file on the Desktop and make the change highlighted in the following figure.

```
index - Notepad
File Edit Format View Help
<html>
<head>
<title>
ITC LAB 03
</title>
</head>
<body>
<p>
<h1>
Enrollemnt:01-222343-001<br>
</h1>
</p>
<p>
Student<br>
Department of Electrical Engineering<br>
<h2>
Bahria University Islamabad<br>
</h2>
</p>

<a href="https://bahria.edu.pk/">
BU Website
</a><br>
<a href="http://www.bahria.edu.pk/buic/ee/">
BUIC-EE-Webpage
</a><br>

</body>
</html>
```

Figure: 3.14 Inserting Hyperlink

- Save the file after making the change highlighted above. Open the file using a browser. You should see that the browser display is similar to as shown below. You will observe that a hyperlink to the specified URL is now added. Click on the URL and note where the target of the hyperlink.
- If the browser display is similar to as shown above, save the index.html file on the Desktop to the folder ITCLab3 as **Hyperlink.html**.

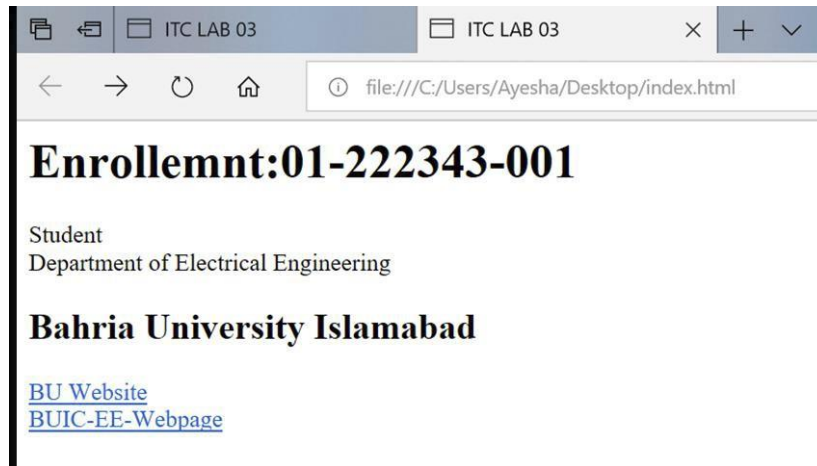


Figure: 3.15 Inserting Hyperlink Display



Figure: 3.16 Links added

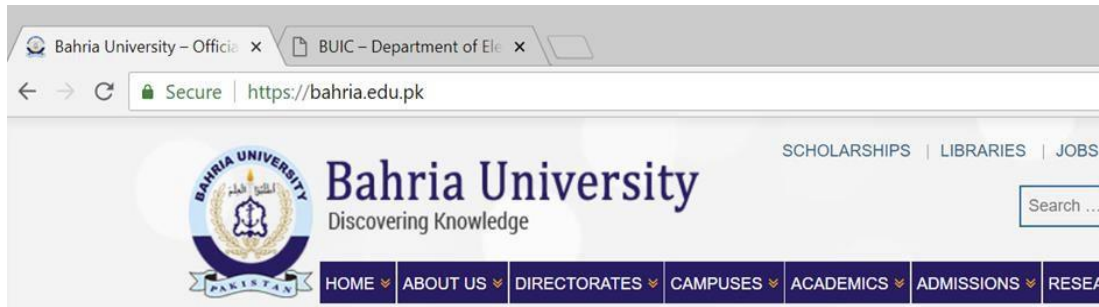


Figure: 3.17 Links added

8. Making text italic, underlined, or bold

We will now see how a text can be *italicized*, underlined, or made **bold** in HTML. The tags for these tasks are, respectively, `<i></i>`, `<u></u>` and ``.

- **Italicizing:** To italicize a body of text, it must be enclosed in `<i> </i>` tags. To demonstrate this, open the index.html file on the Desktop and make the changes highlighted in the following figure.

```

index - Notepad
File Edit Format View Help
<html>
<head>
<title>
ITC LAB 03
</title>
</head>
<body>
<p>
<h1>
<u>
Enrollemnt:01-222343-001
</u><br>
</h1>
</p>
<p>
<b>
Student
</b><br>
<i>Department of Electrical Engineering</i><br>
<h2>
Bahria University Islamabad<br>
</h2>
</p>

<a href="https://bahria.edu.pk/">
BU Website
</a><br>
<a href="http://www.bahria.edu.pk/buic/ee/">
BUIC-EE-Webpage
</a><br>
  
```

Figure: 3.18 Inserting text italic, underline or bold

- After making the changes shown above, save the file and then open in using a browser. You will observe that the text between the `<i>` and `</i>` tags is italicized. If the browser display is as shown below, save the index.html file in the ITClab2 folder as **ItalicsAndUnderline.html**.

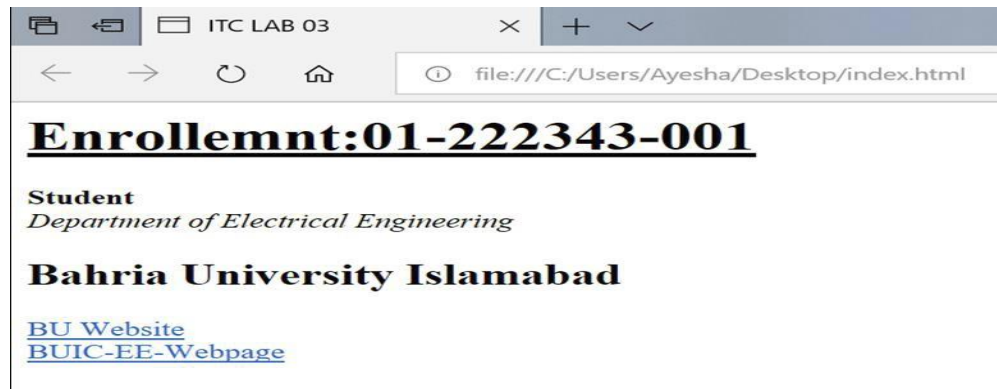


Figure: 3.19 Inserting text italic, underline or bold Display

9. Inserting a table and an image

To create a table, add `<table>` `</table>` tags.

Add `<tbody>` `</tbody>` tags to create body of a table.

To insert columns, add `<td>` `</td>` tags.

To insert rows, add `<tr>` `</tr>` tags.

To insert an image in an HTML page, `` tag is used.

We will now demonstrate how an image is added to an HTML page. Modify the index.html page on the Desktop to as shown below and save the file.

- The HTML page will include the file taimur.jpg as an image. For this to work, taimur.jpg should be in the same folder as the index.html file. Download the taimur.jpg file from the course website and place on the Desktop. With the image file also on the Desktop, open

```

index - Notepad
File Edit Format View Help
<html>
<head>
<title>
ITC LAB 03
</title></head><body>
<table border="1">
<tbody>
<tr><td><p><h1><u>
Enrollemnt:01-222343-001
</u><br></h1></p><p><b>
Student
</b><br><i>
Department of Electrical Engineering</i><br>
<h2>
Bahria University Islamabad<br>
</h2></p>
<a href="https://bahria.edu.pk/">
BU Website
</a><br>
<a href="http://www.bahria.edu.pk/buic/ee/">
BUIC-EE-Webpage
</td><td>

</a><br><td><tr></tbody></table>
</body>
</html>

```

Figure: 3.20 Inserting table and image

- The index.html file using a browser. You should be able to see the image as part of the web page displayed in the browser



Figure: 3.21 Inserting table and image Display

EXPERIMENT 02

Basics of Microsoft Office Word

Objectives

To become familiar with word processing and enable students to use the various tools in MS Word effectively to perform common word processing tasks quickly.

Equipment /tool Used

- Computer with any version of windows installed
- MS Office (MS Word)

Background

Explore Window

Following is the basic window which you get when you start word application. Let us understand various important parts of this window.

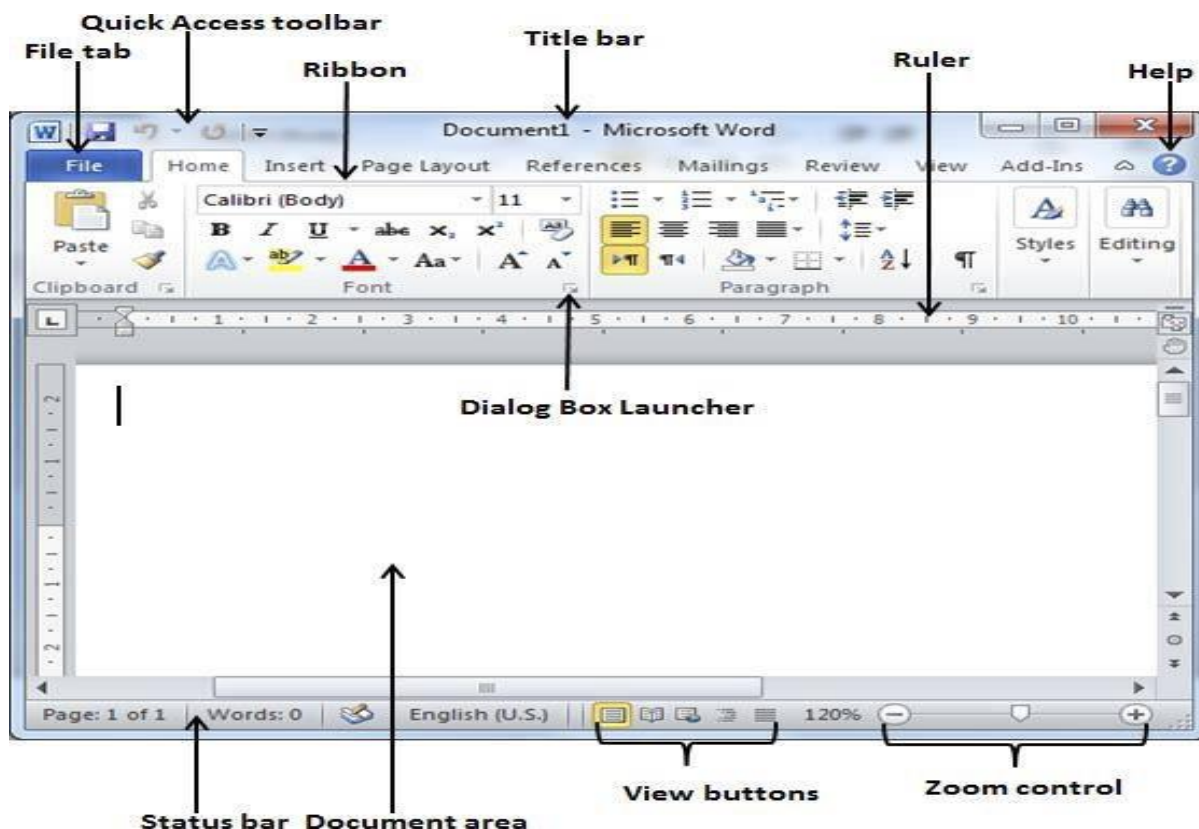


Figure: 4.1 Overview MS WORD

Backstage View

The **Backstage view** has been introduced in Word 2010 and acts as the central place for managing your documents. The backstage view helps in creating new documents, saving and opening documents, printing and sharing documents, and so on.

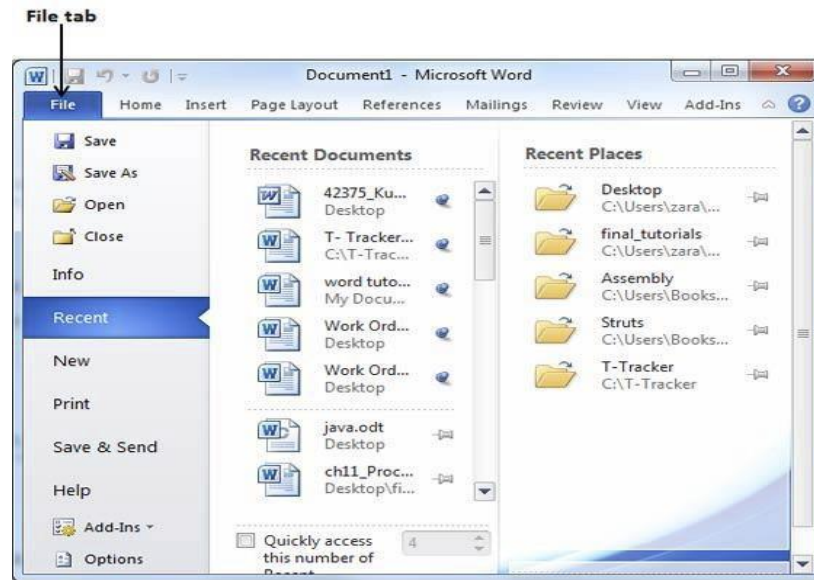


Figure: 4.2 Backstage View

Review Tab

The easiest way to correct spelling mistakes is to right click any word that has a red wavy underline

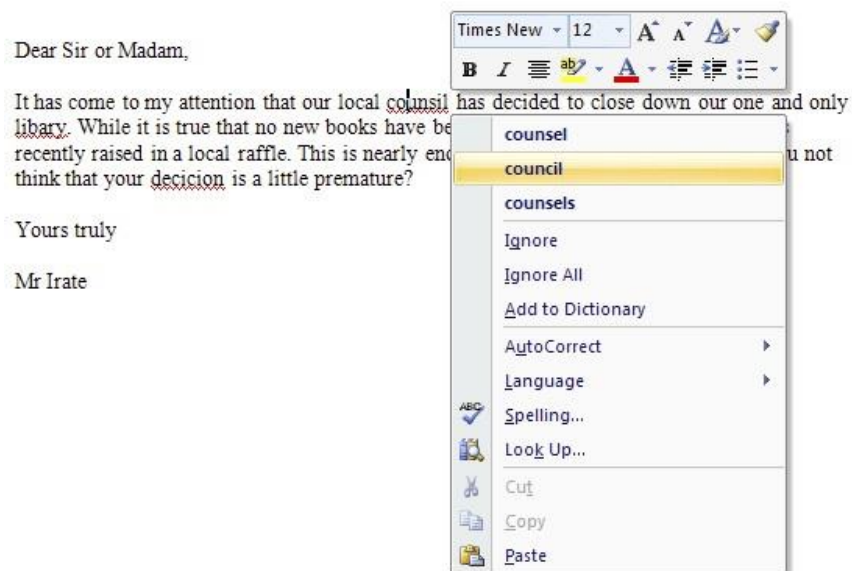


Figure: 4.3 Review Tab

To check more than one word at a time, you can bring up the Spelling and Grammar dialogue box. To see it, click on the **Review** tab at the top of Word. On the Review tab, locate the **Proofing** section. Then click **Spelling & Grammar**:

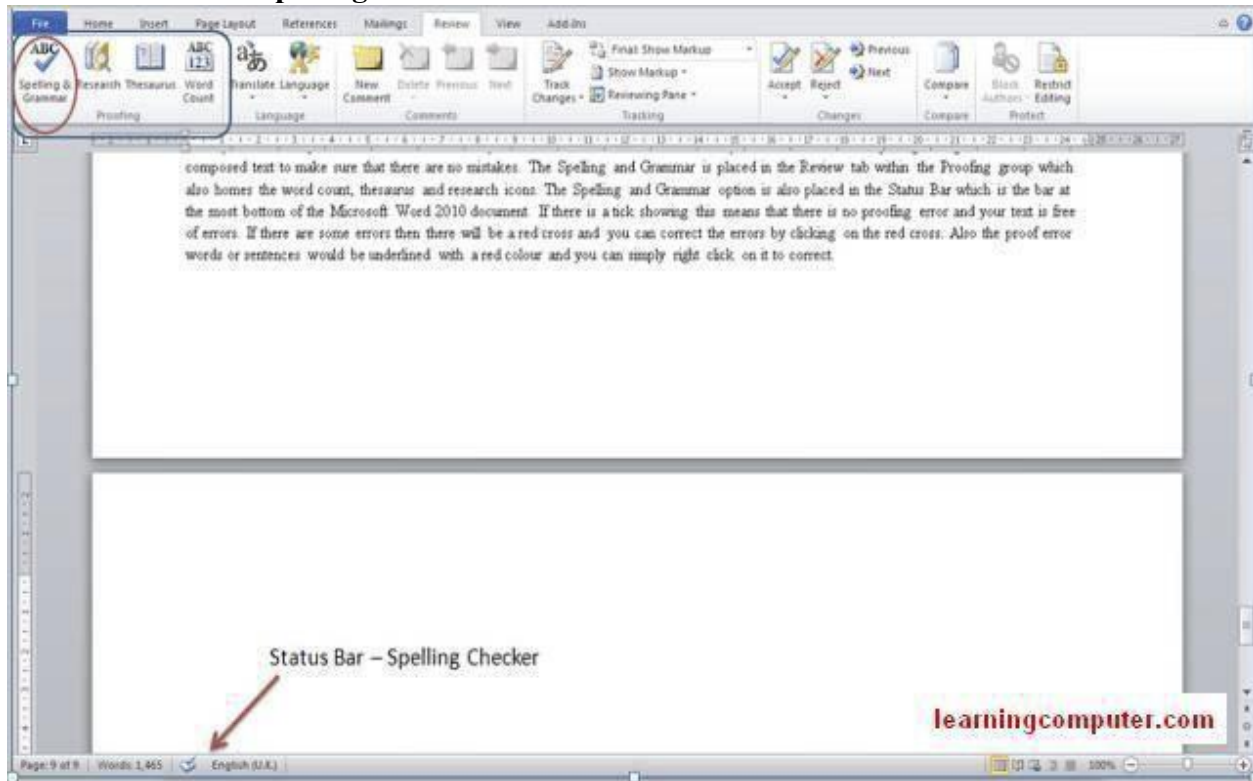


Figure: 4.4 Spelling and Grammar

Word count provides the statistics that how many pages, lines and paragraphs etc. are in our document

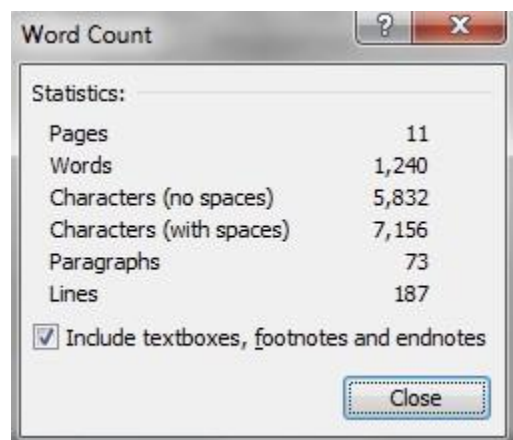


Figure: 4.5 Word Count

Another way To know the current word count of a document, open the document and **right click on the status bar** at the bottom of the Word window. The context menu which comes up will have an entry named **“Word Count”** which will tell you the current word count.

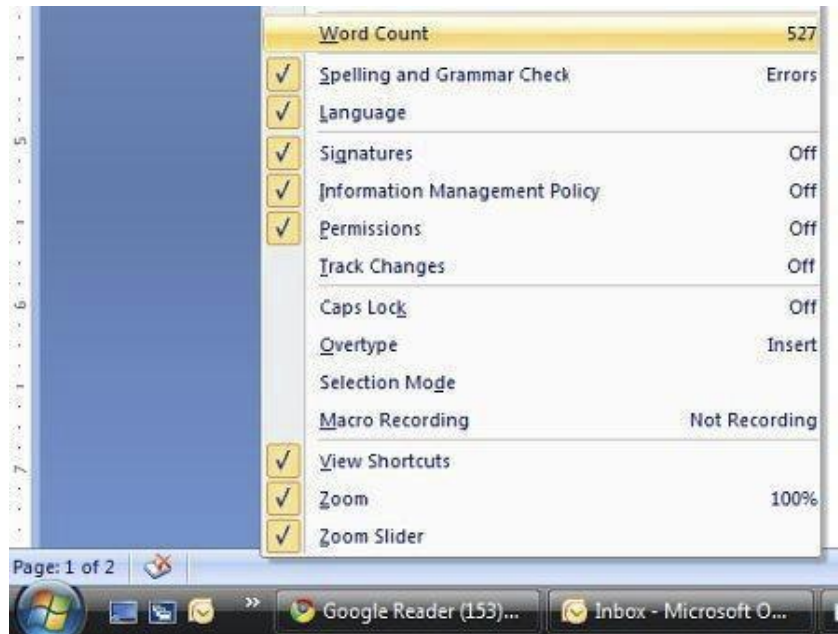


Figure: 4.6 Alternate for Word Count

Using “**Language**” tab one can change the language.

To insert a comment first select the text then go to “**New Comment**” on “**Comments**” group in “**Review**” tab. Click on “**New Comment**” and a new comment will be inserted. You can also move to next or previous comments and can also delete the comments using this “**comments**” group.

To insert a comment in a document, highlight the area of text where you want to comment on. Click the Review tab on the Ribbon then click New Comment

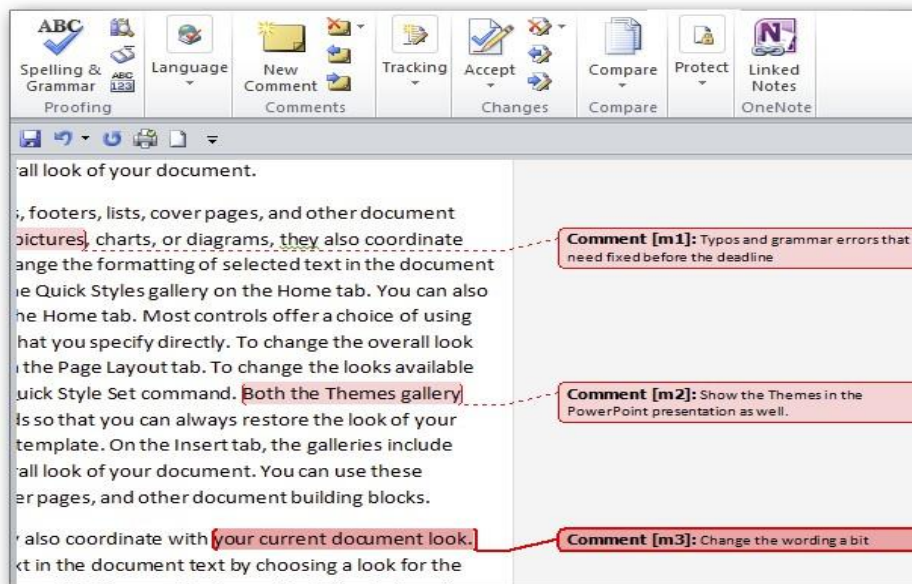


Figure: 4.7 Comment

Tracking Group:

With this feature of tracking, you can track and view all changes that are made to the document.

1. While in the document, On the **Review** tab, under the **Tracking** group, click **Track Changes**.

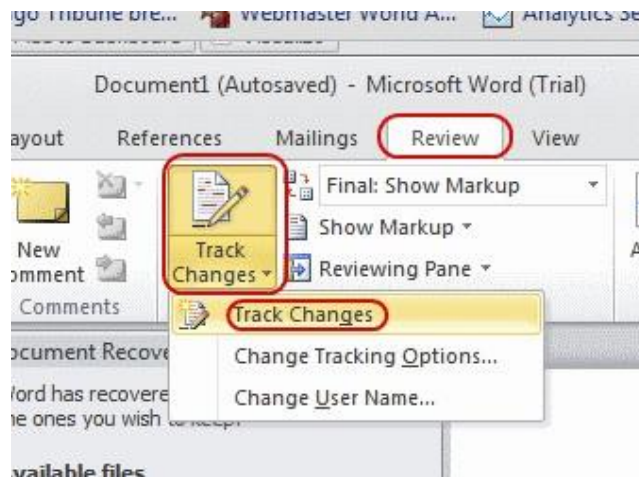


Figure: 4.8 Track changes

1. On the **Review** tab, in the **Changes** section, click the **Next** button to move to the next change.
2. Click the **Accept** or **Reject** button to accept the change or reject the change and move to the next change.
3. Keep going until you've responded to all the changes.

In “**Compare**” group there is an option to compare two different documents. This option is usually used to find out the similarity between two different documents

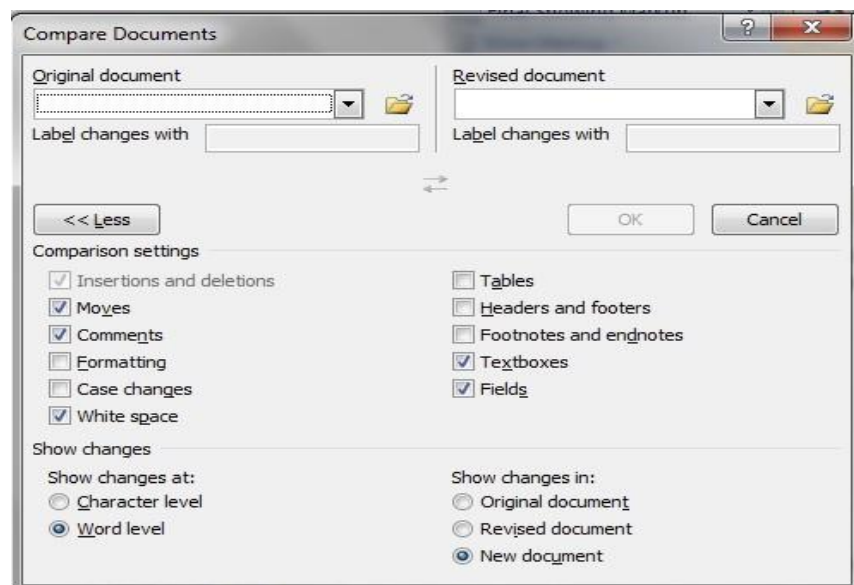


Figure: 4.9 Compare Documents

After browsing the paths for original and revised documents click” ok”. A new document will be opened that will highlight the changes present in the both documents.

View Tab

View tab is used to change the document views. Go through each view and observe the changes that each view brings.

Quick Access Toolbar:

With MS Word 2010 there is also **Quick Access Toolbar** which has a save, undo Repeat Typing button and Customize Quick Access drop down list. Within the list there are New, Open, Save, E-mail, Quick Print, Print Preview and Print, Spelling & Grammar, Undo, and Redo, Draw Table, Open Recent File icons. You can also choose to show the Quick Access Toolbar below the Ribbon by choosing Show below the Ribbon selection and you can also customize further with the More Commands button and make Microsoft Word 2010 suitable to your preferences and needs. In such a manner Quick Access Toolbar of MS Word lets you performance routine tasks much faster. The Microsoft Word 2010 **Quick Access toolbar** and its functionality are shown below

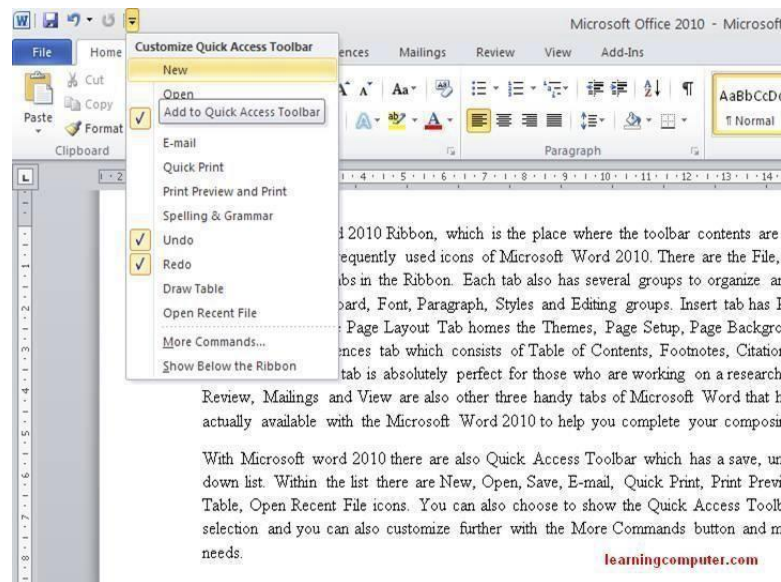


Figure: 4.10 View Tab

Tasks:

Formatting Text

A computer is a device that accepts information (in the form of digitalized data) and manipulates it for some result based on a program or sequence of instructions on how the data is to be processed. Complex computers also include the means for storing data (including the program, which is also a form of data) for some necessary duration. A program may be invariable and built into the computer (and called logic circuitry as it is on microprocessors) or different programs may be provided to the computer (loaded into its storage and then started by an administrator or user). Today's computers have both kinds of programming.

EXPERIMENT 03

References and Mailing tabs of MS Office Word

Objectives

To become familiar with word processing and enable students to use the various tools in MS Word effectively to perform common word processing tasks quickly.

Equipment /tool Used

- Computer with any version of windows installed
- MS Office (MS Word)

Background

Reference Tab

This tab provides the quick way to create table of contents, update it, enter citations or references, choose any writing styles and footnotes etc. For generating the table of contents first selects the text from the document to appear in it. After selecting the text, make it a heading from “Styles” group in home tab. After making different headings, go to “Table of Contents” option in “Table of Contents” group of “Reference” tab and select any one format.

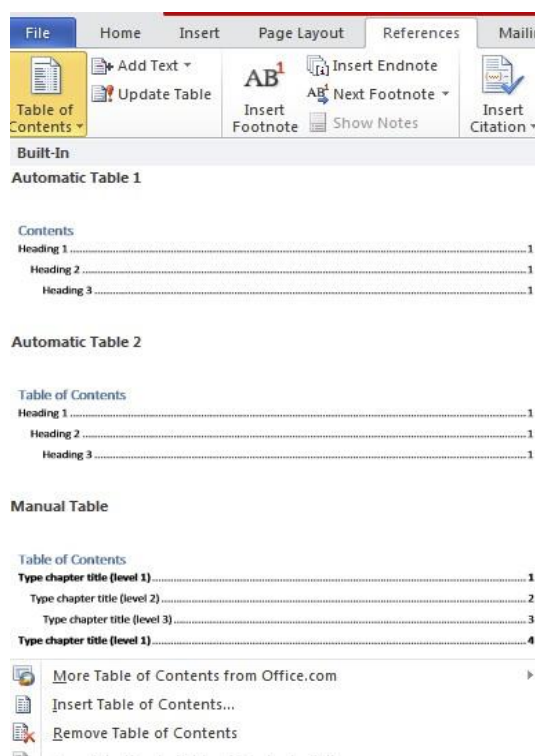


Figure: 5.1 Table of Contents

In “**Footnotes**” group there is an option to add footnotes and endnotes. Footnotes and endnotes are an easy way to add or provide the reader with supplementary information and that information will appear at the end of the page.

To insert a footnote or endnote, navigate to Footnotes section. To insert a footnote, click the menu option with text as **AB1Insert (Placeholder1) Footnote**

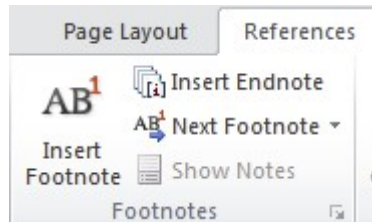


Figure: 5.2 Footnotes

Similarly, to insert an endnote, click the **Insert Endnote** menu option.

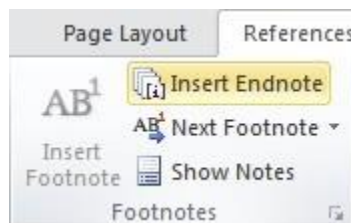


Figure: 5.3 Endnotes

The keyboard shortcuts for inserting a Footnote are **Alt + Ctrl + F** for inserting an Endnote is **Alt + Ctrl + D**

Similarly, citations and bibliography can be inserted from “**Citations and Bibliography**” group. The writing styles can also be changes from here as citations depend upon it. In technical writing we have many different styles of writing that can be select from this group of “Reference” tab.

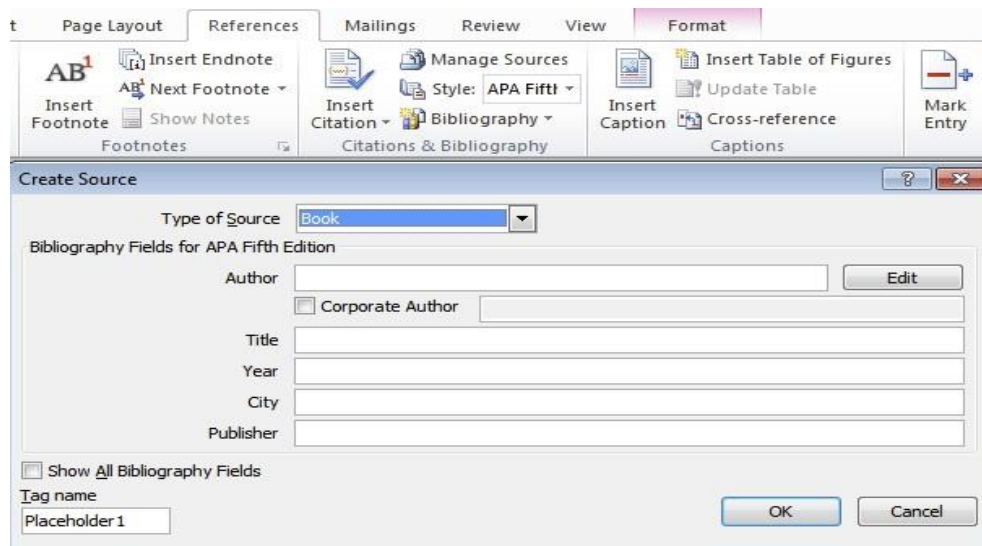


Figure: 5.4 Create Source

In “Captions” group, one can give captions to the figures and hence can create the table of figures in the same manner as table of content were created.

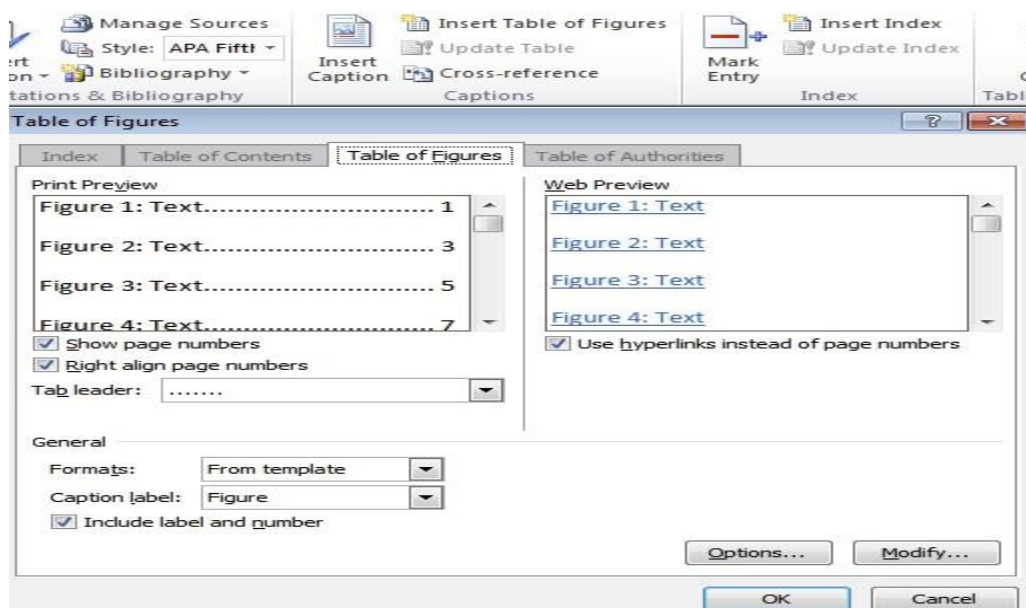


Figure: 5.5 Table of Figures

Mailing Tab

We can create, and print envelopes and labels using this tab. “Start mail merge” are used to create a form letter which one uses for printing and sending purpose. We can select the recipient also.

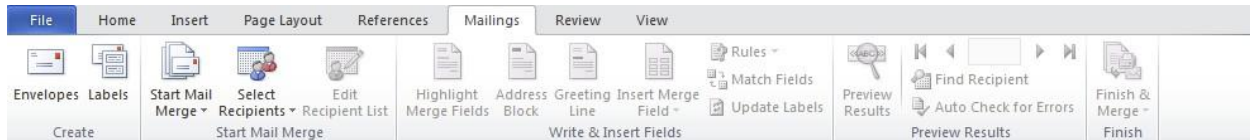


Figure: 5.6 Mailing Tab

Insert Tab

Click the **Insert** tab and click **Table** button. This will display a simple grid shown below. When you move your mouse over the grid cells, it makes a table in the table which appears in the document. You can make your table having desired number of rows and columns

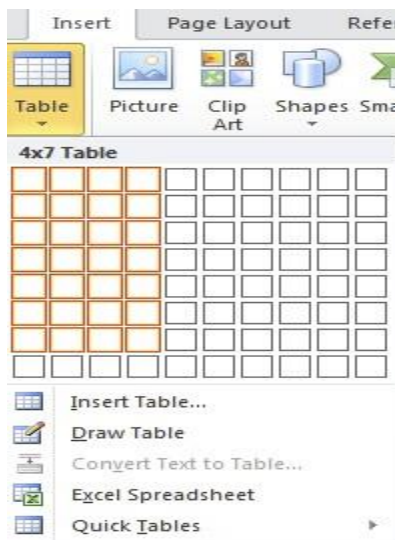


Figure: 5.7 Insert Tab

Click the square representing the lower-right corner of your table, which will create actual table in your document and word goes in table design mode giving lots of options to work with table as shown below.

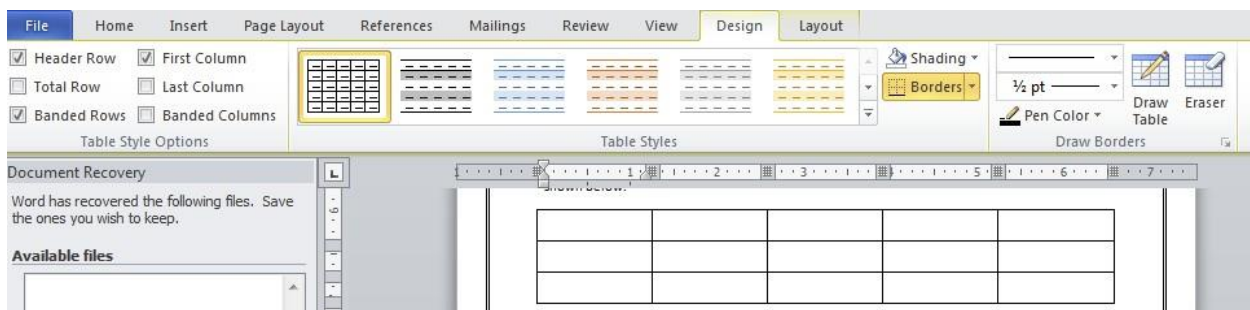


Figure: 5.8 Designs

Following are the simple steps to “**delete**” an existing table from a word document.

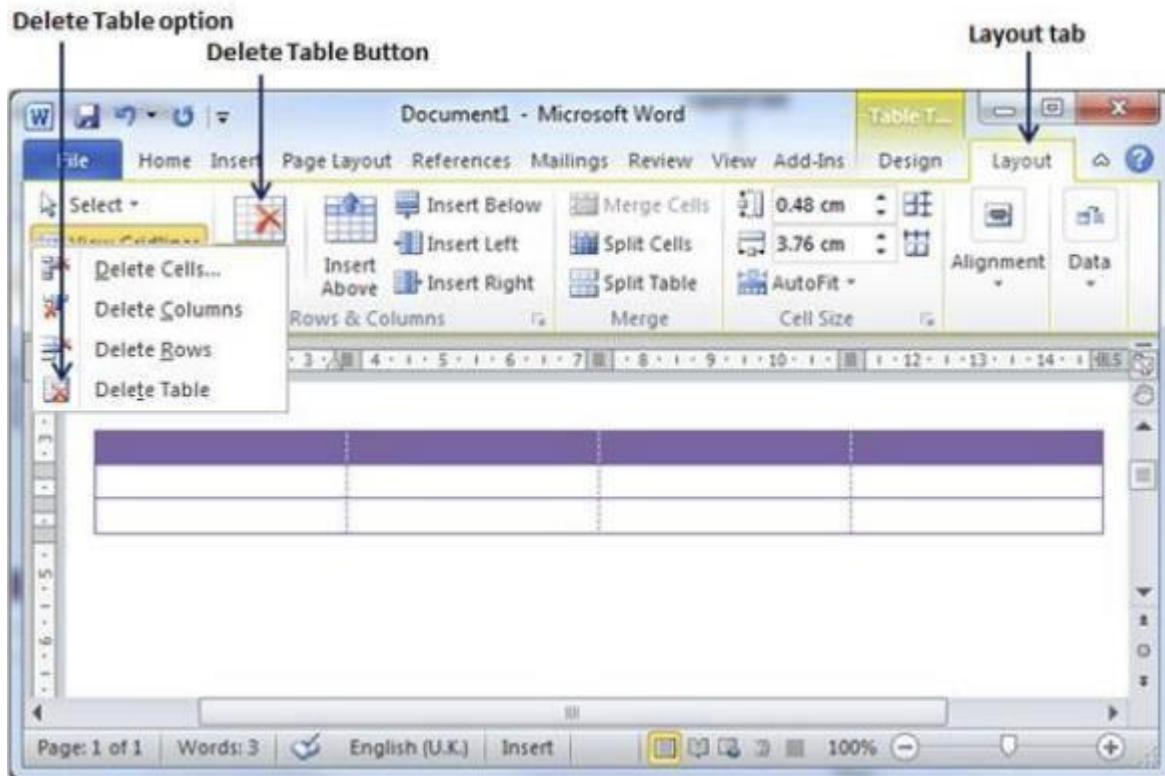


Figure: 5.9 Layout

Step (1): Click anywhere in the table you want to delete.

Step (2): Click the **Layout tab** and click **Delete Table option** under the **Delete Table Button** to delete complete table from the document along with its content.

Following are the simple steps to “**add formula**” in a table cell available in word document.

Step (1): Consider the following table where we will have total of the rows. Click in a cell that should contain the sum of rows.

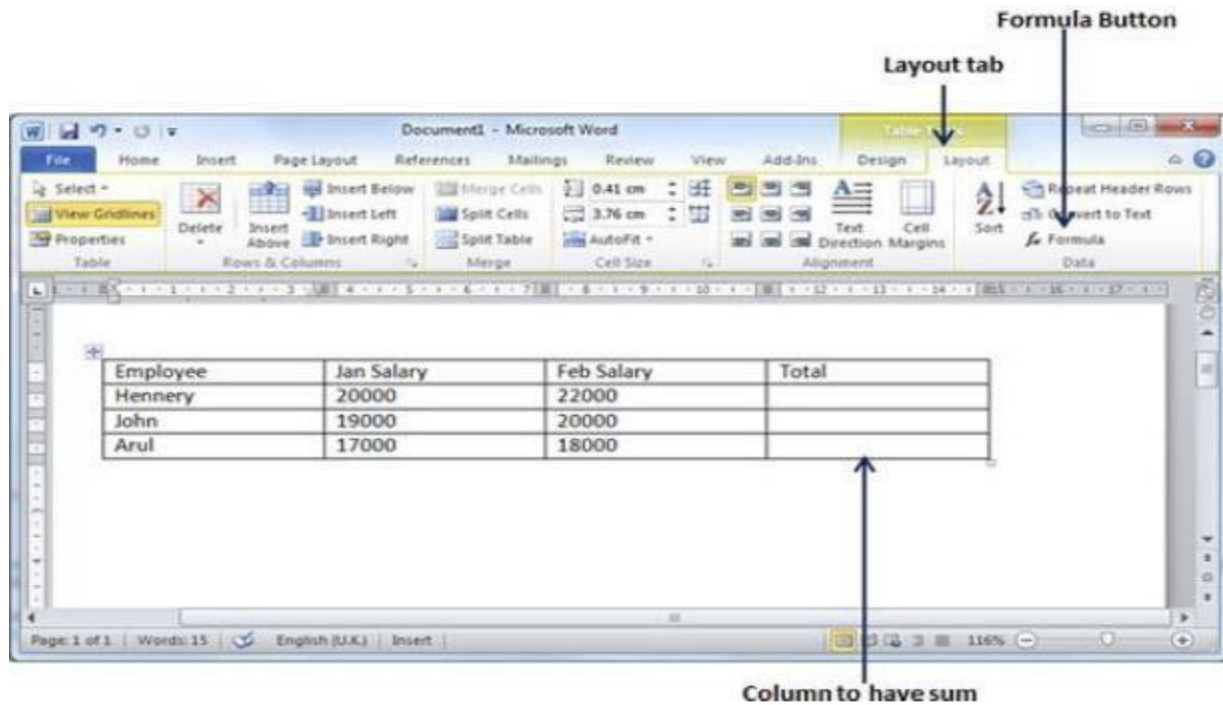


Figure: 5.10 Formula Button

Following are the simple steps to “add an existing picture” in your word document. It is assumed that you already have a picture available on your PC before you add this picture in your word document.

Step (1): Click in your document where you want to add a picture.

Step (2): Click the **Insert tab** and then click **Picture** option available in illustrations group, which will display **Insert Picture** dialog box.



Figure: 5.11 Insert Picture Dialogue Box

Similarly, you can insert **Clip Art, Shapes, and Charts** etc.

Task

1. Create the following structure in MS Word

Title	First	Last	Department	Mail_Box	Training_Date
Ms.	Sally	Nelson	Personnel	Box 7	Friday, August 22, 2003
Dr.	Miguel	Puentes	Payroll	Box 1	Thursday, September 4, 2003
Mr.	Robert	Seiman	Purchasing	Box 11	Tuesday, September 9, 2003
Ms.	Nikole	Roth	Bookkeeping	Box 3	Thursday, September 4, 2003

Solution

EXPERIMENT 04

Fundamentals of MS Office PowerPoint

Objectives

- To become familiar with the basics of making presentations using MS PowerPoint
- To become familiar with the basics of good presentation design

Equipment /tool Used

- Computer with any version of windows installed
- MS Office (MS Power Point)

Background

Microsoft Power Point

Microsoft PowerPoint is a software product used to perform computer-based presentations. There are various circumstances in which a presentation is made: teaching a class, introducing a product to sell, explaining an organizational structure, etc.

Home Tab

To begin Microsoft PowerPoint, go to Start Menu > All Programs > Microsoft Office > Microsoft PowerPoint 2010. Select PowerPoint Presentation from the Project Gallery if a blank document does not open.

The Design Ribbon toolbar contains several categories for formatting the design and elements of your presentation. These include: Home, Insert, Design, Transitions, Animations, Slide Show, Review and View. The brief introduction of these tabs is;

- The Home bar: This has features that allow you to edit Slides, Fonts, Paragraph, Drawing and Editing.
- The Insert bar: This has features that allow you to add Tables, Images, Illustrations, Links, WordArt, and Media Clips.
- The Design bar: This allows you to edit how your presentation will look. It includes features such as Page Setup, Themes, and Background Styles.
- The Transitions bar: This allows you to edit Slide Transitions, Effects, and Transition Timing. The Animations bar: This allows you to add custom animations to your presentation. You can select from Preview, Animations, Advance Animation, and Animation timing.
- The Slide Show bar: This has features that allow you to select how your presentation will be displayed. From here, you can start your Slide Show, Set Up your Slide Show, and Adjust Monitor Settings.
- The Review bar: This allows you to Proofread, Translate Languages, Comment Slides, and Compare your Presentation.

- The View bar: This has features that allow you to set the View of your Presentation, Create Master Views, Show/Hide Features, Zoom, Switch from Color to Grayscale, Adjust Windows, and Add Macros.

Creating a new slide

1. To create a new slide where you can add content, click the *Home* tab and select *New Slide*.
2. Clicking the bottom half of *New Slide* will give you different new slide options.

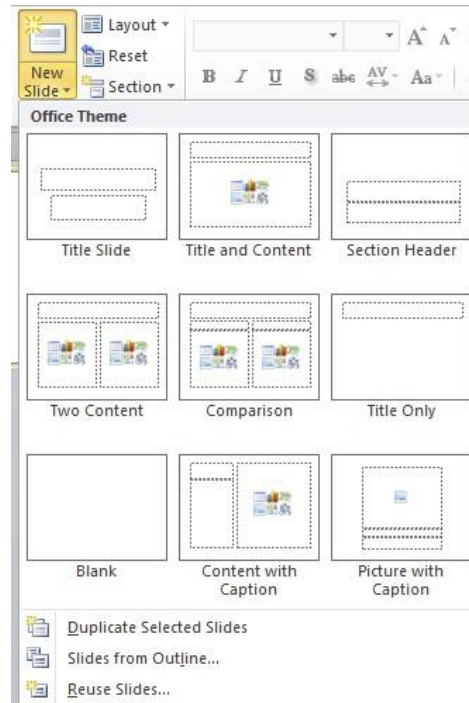


Figure: 6.1 New Slide

Slide types or layouts include -

- title slides
- title and content slides
- comparison slides
- two content
- picture with caption slides
- and more

These layouts of slides will define the appearance of the slide and the way one can put data into the slides. The layout of the slides can also be change after they are inserted. In Slides group, there is a drop-down menu named as “Layout”. By clicking on layout tab and selecting a layout style, the style of current slide can be changed.

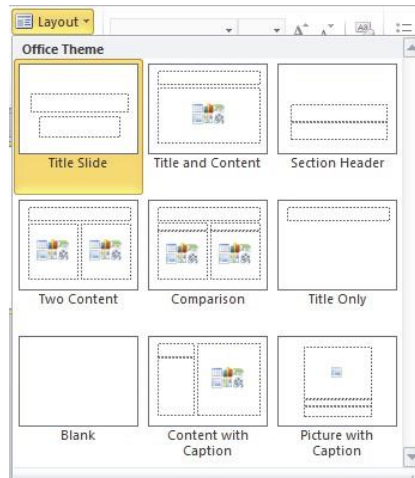


Figure: 6.2 Layout

In this tab there is option to cut copy and paste the text. These options are available in “clipboard” group of Home Tab. Shortcut keys for copy, cut and paste commands are Ctrl+c, Ctrl+x and Ctrl+v respectively.

Font group allows you to change the font of the text, size, and case etc. of the text. Select the text first then perform any operation.



Figure: 6.3 Fonts

In order to change the case of text, select the text you want to change then go to Font group of Home Tab and choose an option from drop down list.

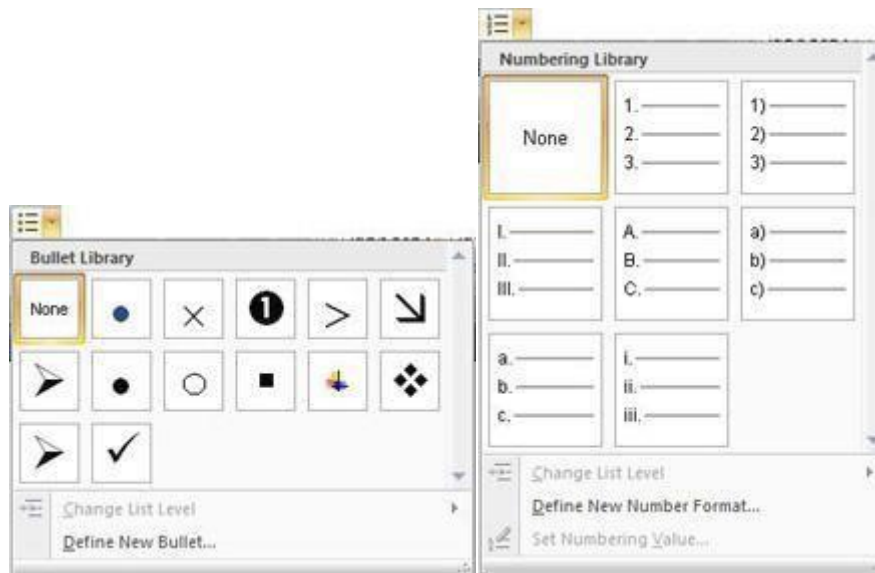
Aa The simplest way to change the way your text looks is to use Bold, Italics, Underline button on the formatting tool bar. To apply these, just click the button you want your text to be formatted into. Formatting text involves Underline, Bold, Italic, and Text in different Fonts, Text in different font sizes, and text in different colors.

Similarly, you can change the text color, outline and appearance etc.

You can make the lists by using bullets, numbering and multilevel list in the “Paragraph Group”.

1. Select the paragraphs you want to format
2. Click the **Home** tab on the Ribbon and click the **Bullets** or **Numbering** button in the paragraph group

Click the list arrow on each button to apply a different style of bullets or numbering



Multileveled lists apply different bullets or numbering to the different levels of a list.

1. Select the paragraphs you want to format
2. Click the Home tab on the Ribbon and click the list arrow on the **Multilevel List** button in the paragraph group



Figure: 6.5 Styles of Bullets

1. Select the style you want to use
2. Change the level of the items in the list by using the **Tab** key to increase the indent, and by pressing **Shift + Tab** keys to decrease the indent

Similarly, text indentation is also done using this “Paragraph” group.

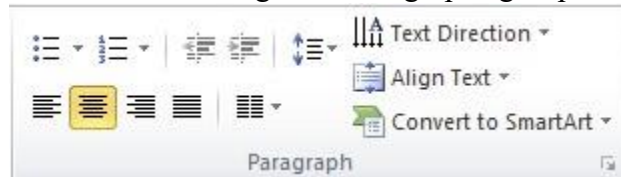


Figure: 6.6 Paragraph

Line and Paragraph Spacing

1. On the home tab of the ribbon, look for the paragraph group. Then click on the Line Spacing button, as shown in the image below.

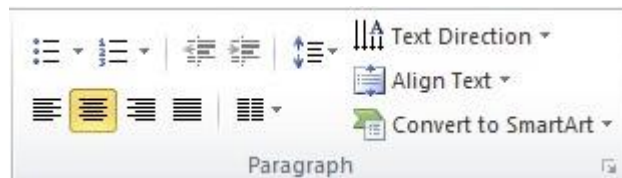


Figure: 6.7 Line and Paragraph Spacing

Select your desired line spacing. From this menu you can select to have your line spacing set to 1, 1.15, 1.5, 2, 2.5 or 3.

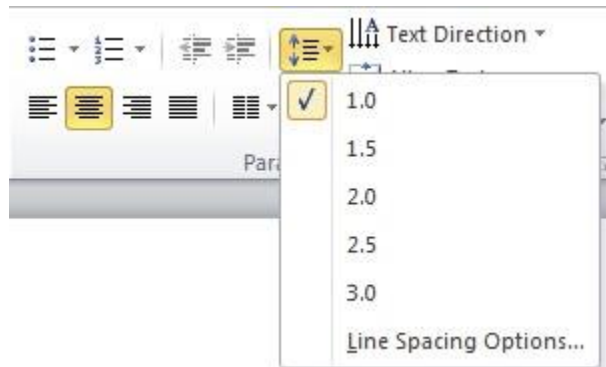


Figure: 6.8 Line and Paragraph Spacing

Text direction can also be changed.

- Select the text whose direction is to be changed
- Go to Home tab then in Paragraph group
- Select Text Direction and choose one option from the listed options

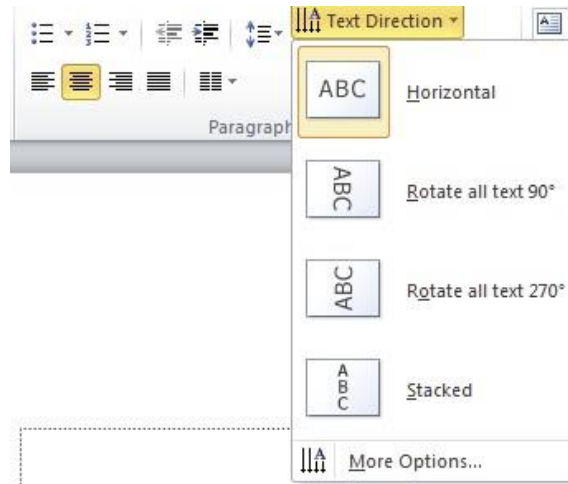


Figure: 6.9 Text Direction

After selecting from Text Direction, the text's direction will be changed on slide. To change the alignment of text within the text box, follow the following steps;

- Select the text. Go to Home tab then in "Paragraph" group.
- Click on "Align Text" option. Select any one option.

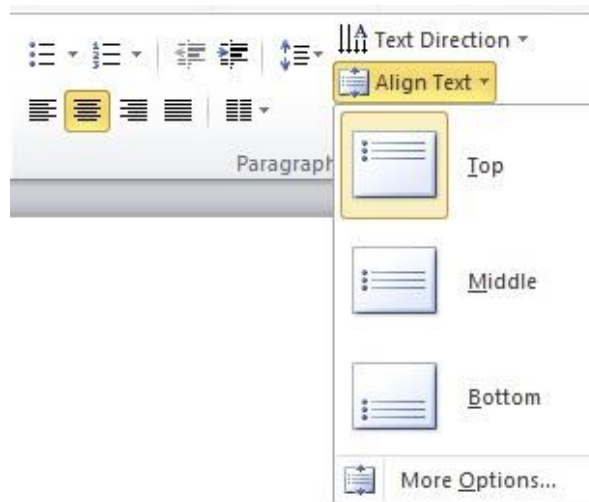


Figure: 6.10 Align Text

Simple plain text can be converted into SmartArt.

- Select the text. Go to "Home" tab.
- Go to "Paragraph" group and select the "convert to SmartArt" option.
- PowerPoint will list different types of SmartArt graphics.
- You can convert your SmartArt graphic back to text by right-clicking the graphic or SmartArt shape and selecting **Convert to Text**.
- You will lose some text customizations, such as changes to the text color or font size that you made to the text on the slide when you convert the text to a SmartArt graphic.

- After you select a layout for a SmartArt graphic, the text in your slides is automatically put in shapes and arranged based on the layout that you chose. You can then customize the SmartArt graphic by changing its color or by adding a SmartArt style to it.

You can change the colors applied to the shapes in your SmartArt graphic. The different color combinations are all derived from the theme colors of your presentation.

1. Click the SmartArt graphic.

2. Under **SmartArt Tools**, on the **Design** tab, in the **SmartArt Styles** group, click **Change Colors**.



Figure: 6.11 Smart Art Styles

If you don't see the **SmartArt Tools** or **Design** tabs, make sure that you've selected a SmartArt graphic. You may have to double-click the SmartArt graphic to select it and open the **Design** tab.

3. Click the color variation that you want.

The figure shown below states the conversion of the text into SmartArt. It shows how the plain bulleted text is converted into a professional design.



Figure: 6.12 Smart Art Designs

“Drawing” Group of home tab is used to create different type of shapes like square etc.



Figure: 6.13 Drawing

Shape outline, color and effects can be changed using the same group in Home Tab. Find Replace option in editing group:

1. On the “Home” tab of the Ribbon, go to the “Editing” group, and select “Find” ... or use the shortcut key CTRL+F.
2. Type the word you want to find, and then press enter.

If you want to make a change to a specific word, you want to use the replace functionality. To replace a word/s in PowerPoint:

1. Go to the “Editing” group, and select “Replace”, or use the shortcut key CTRL+H
2. In the “Find what” text box, type the word you want to find
3. In the “Replace with” text box, type the word that you want to replace the original word with
4. To replace words one at a time, click “Replace”, if you want to replace every occurrence of the word in the document, click “Replace All”

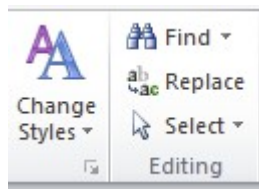


Figure: 6.14 Editing

Insert Tab

First group in insert tab is “Tables”. On selecting the “table”, different option will appear from where rows and columns can be selected.

- Click on the arrow underneath **Table**. This will open up a new box with several options for creating a table.
- If you select the **Insert Table** option, a dialog box will appear where you can enter more exact specifications for the table.

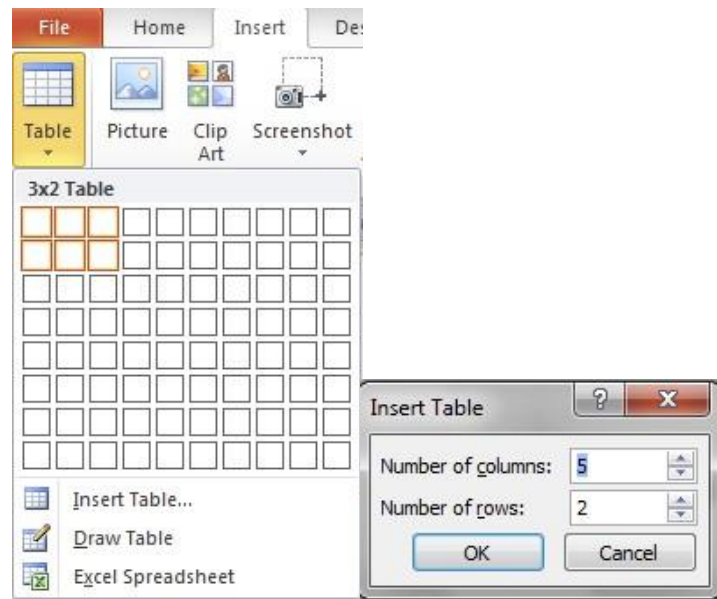


Figure: 6.15 Insert Table

Next group is “Images” group. Any picture placed in any directory of the computer can be accessed using “Picture” option of this group and can be inserted in slides. Similarly Clipart can also be inserted using this group.

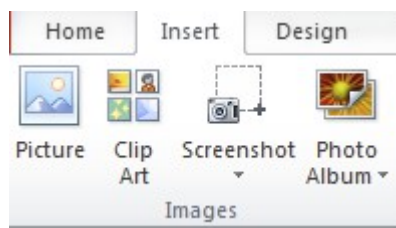


Figure: 6.16 Insert Images

It has an option of getting Screenshots. PowerPoint will automatically take the screenshots of already opened windows and gives the option to select the screenshot and insert in slide.

To create a photo album

- Go to “Images” group of “Insert” tab.

Click on the. It will give an option to create a new album or edit the existing one.

- On clicking the new photo album, the dialogue box is opened

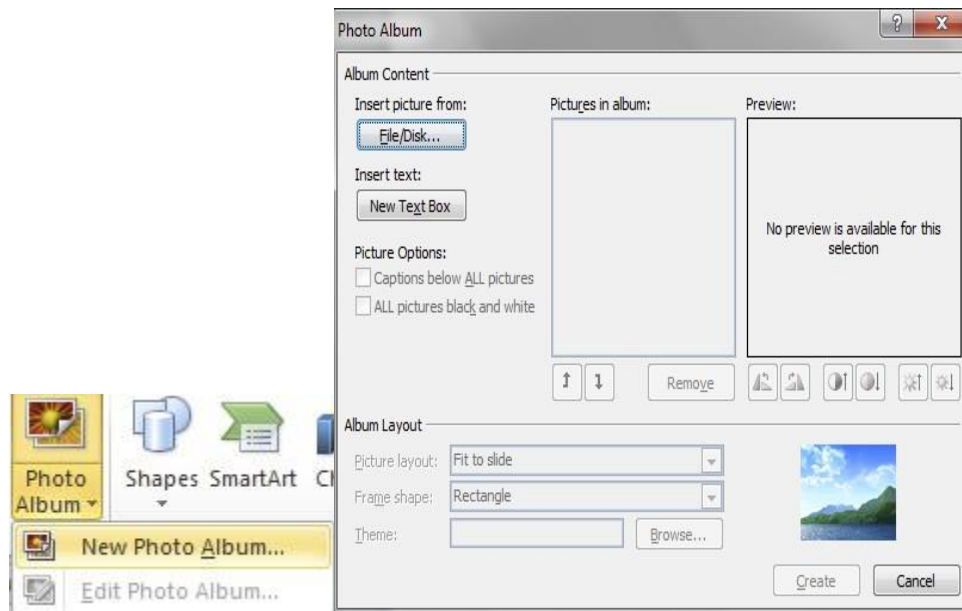


Figure: 6.17 Photo Album

On selecting multiple files for album, a new presentation will be generated having all those selected pictures.

Shapes, SmartArt and charts can be inserted using the “Illustrations” group of the “Insert” tab. Adding Audio / Video to PowerPoint presentation:

1. Click on the Insert tab of the ribbon.
2. Click on the Movie or sound button in the media clip group to insert video or audio in Presentation.
3. There are different options available for inserting audio or video to PowerPoint slides.
4. If you want to hide the audio file during slide show, select “Automatically” from **Play sound** drop down menu and check the **Hide during show** option in the sound options group

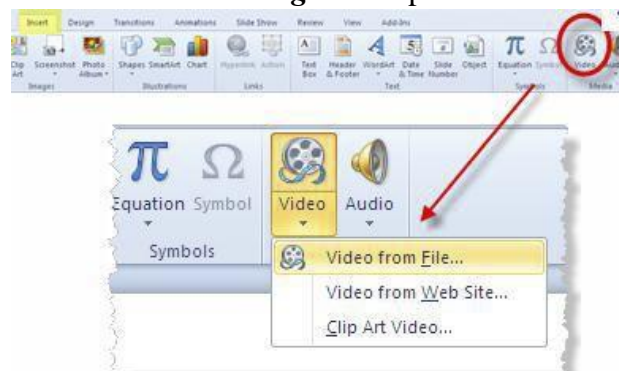


Figure: 6.18 Video from file

Adding Hyperlink:

Select the text or image to link to insert a hyperlink. From right-click menu, click Hyperlink option

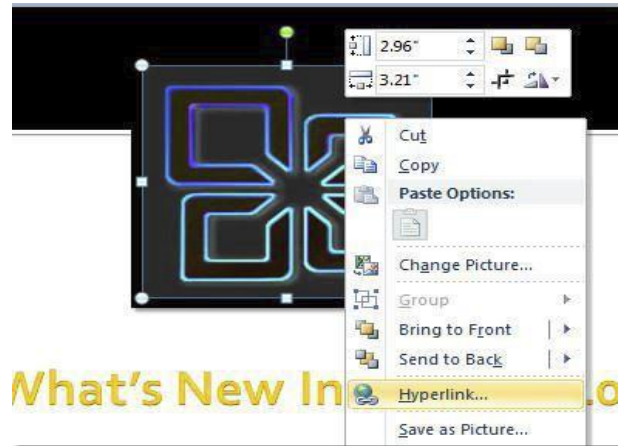


Figure: 6.19 Hyperlink

This will bring up Insert Hyperlink dialog, from left side bar, select place in This Document, from center pane, select a slide to create link with and click OK.

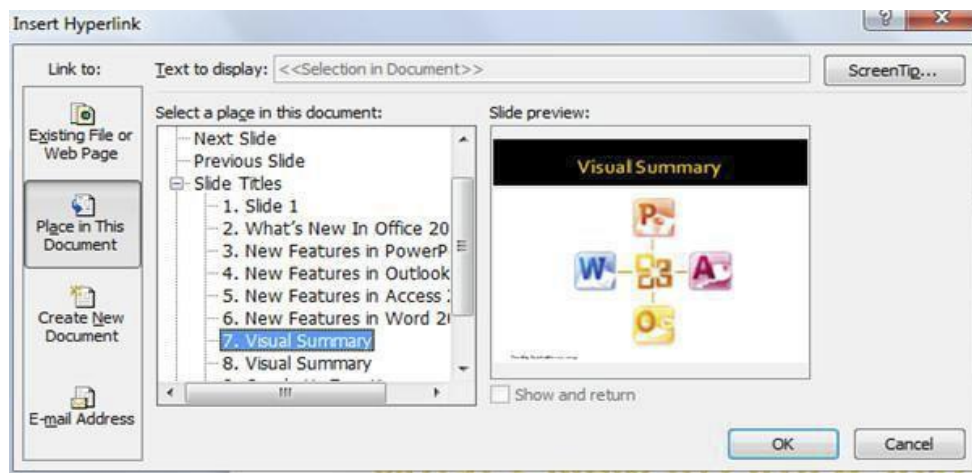


Figure: 6.20 Insert Hyperlink

This will insert a hyperlink in a specified slide.

Using “Text” group of “Insert” tab we can insert different text boxes, slide number and word art etc.



Figure: 6.21 Insert Tab

EXPERIMENT 05

Introduction to MS Office Excel

Objectives

MS Excel is spreadsheet software in the Microsoft Office Suite. Excel allows you to store manipulate and analyze data in organized workbooks for home and business tasks

Equipment /tool Used

- Computer with any version of windows installed
- MS Office (MS Excel)

Background

Microsoft Excel is a spreadsheet developed by Microsoft for Windows, macOS, Android and iOS. It features calculation, graphing tools, pivot tables, and a macro programming language called Visual Basic for Applications. It has been a very widely applied spreadsheet for these platforms, especially since version 5 in 1993, and it has replaced Lotus 1-2-3 as the industry standard for spreadsheets. Excel forms part of Microsoft Office.

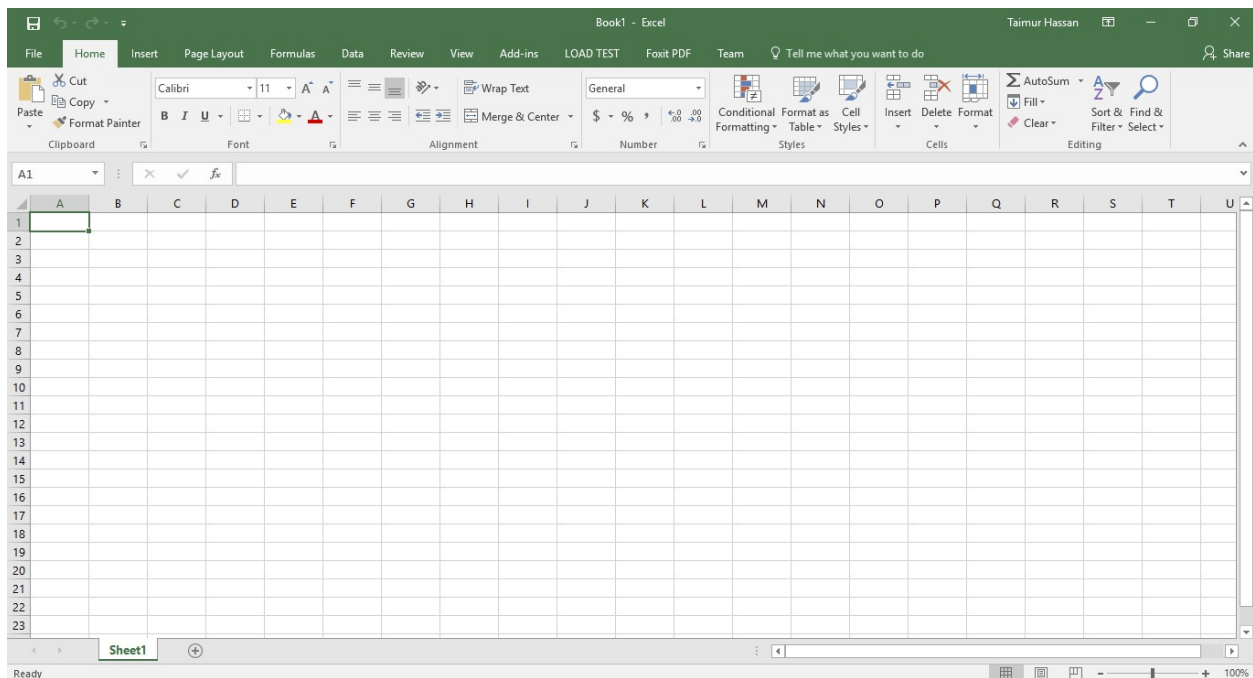


Figure: 7.1 Overview

To begin, open Excel 2016

Creating New Blank Workbook

- a. At the top-left of your screen, you will see a File Button. Click on that Button and select new
- b. Select 'Blank Workbook' from the window that appears, and click create
- c. A new Excel workbook opens

Opening an Existing Workbook

- a. Go to the File Button menu and click on 'Open'
- b. A window appears with some path set (typically 'My Documents'). The left-hand side of the window shows some links that allow you to browse through different folders and change the path
- c. Go to the folder where the workbook you want to open is located, select the workbook and click open

A. Inside Home tab

- a. In the Home tab you will see different sections 'Clipboard', 'Font', 'Alignment', 'Number', 'Styles', 'Cells' and 'Editing'.
- b. Each section has different buttons. When you place mouse pointer over a button for two seconds, a description of the button appears. Try placing the pointer over different buttons and read the description of each button.

I. Exploring the Fonts Section

- a. Make the text bold by selecting some text and clicking on 'B'.
- b. *Italicize the text by selecting some text and clicking on 'I'*
- c. Similarly, you can underline by clicking 'U', add border to cell. Change the font -type or the font-size. You can change the color of the text or highlight the text.
- d. Inside the Font section, click on the little arrow in the bottom right to explore more options.

II. Exploring Alignment section

- a. Text Alignment
 - You can **left align** text
 - You can **right align** text
 - You can **center align** you text
 - You can **top align** text
 - You can **middle align** text
 - You can **bottom align** you text
- b. You can change text orientation, wrap text and merge & center multiple cells as well

III. Exploring Alignment section

Explore the use of
'**Increase indent**' button.
'**Decrease indent**' button

IV. Creating New Sheet

You can create multiple sheets within a single workbook

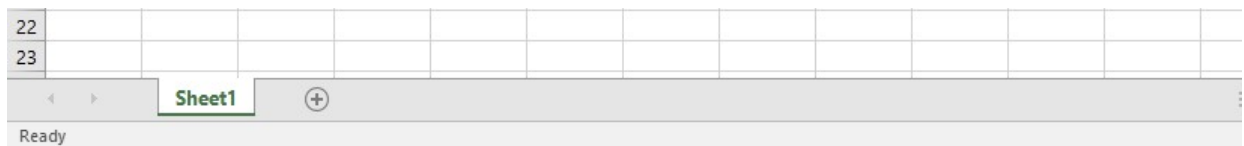


Figure: 7.2 Sheet

B. Page Layout Section

- This tab is majorly used to set the margins, orientation and background of the spread sheet.
- There is an option “Print Area” in page setup group. By using this option we can select the area for printing purpose

C. Formula Section

- We can apply different formulas using this tab. Function library group is one of the mostly used groups

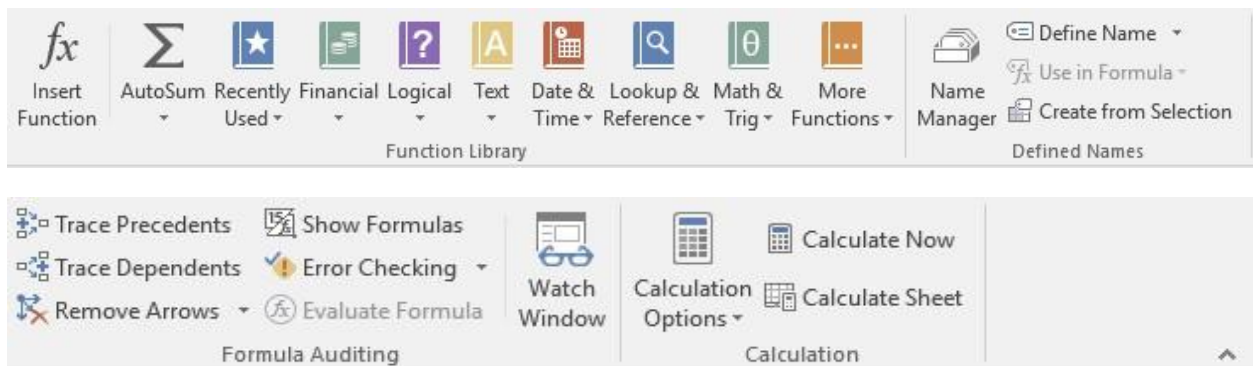


Figure: 7.3 Toolbox

Use of Basic Statistics

You can use most common statistical metrics.

- Mean → Average ()
 - Sum of points / no. of points
 - E.g. you have points, 4, 5, 6 then mean = $(4+5+6)/3 = 5$
 - =Average ()
- Min/Max → minimum or maximum
 - Max (4, 5, 6) = 6
 - Min (4, 5, 6) = 4
- Standard Deviation → How wide-spread the data is.
 - Bigger the spread, higher the standard deviation.
 - Size of dataset also effects value of standard deviation.

If we only have a few numbers ranging between 1 and 10 for example, the standard deviation will likely be higher than if we have thousands of numbers ranging between 1 and 10. For example,

Both these sets A and B have an average of 5. But A has a standard deviation of 0.7 while B has a standard deviation of 4.1. Excel has a simple function to calculate the standard deviation of a set of points:

=stdev ()

Insert a linked Excel chart in PowerPoint

You can insert and link a chart from an Excel workbook into your PowerPoint presentation. When you edit the data in the spreadsheet, the chart on the PowerPoint slide can be easily updated.

1. To chart your data in a worksheet

a) Make this table in Excel worksheet

	A	B	C
1		QTR1	QTR2
2	Projected	75	85
3	Actual	84	99

Figure: 7.4 Excel worksheet

b) Select the data that you want to chart

	A	B	C
1		QTR1	QTR2
2	Projected	75	85
3	Actual	84	99

Figure: 7.5 Excel worksheet

c) On the Insert tab, in the Charts group, click the chart type that you want to use, and then click a chart subtype.

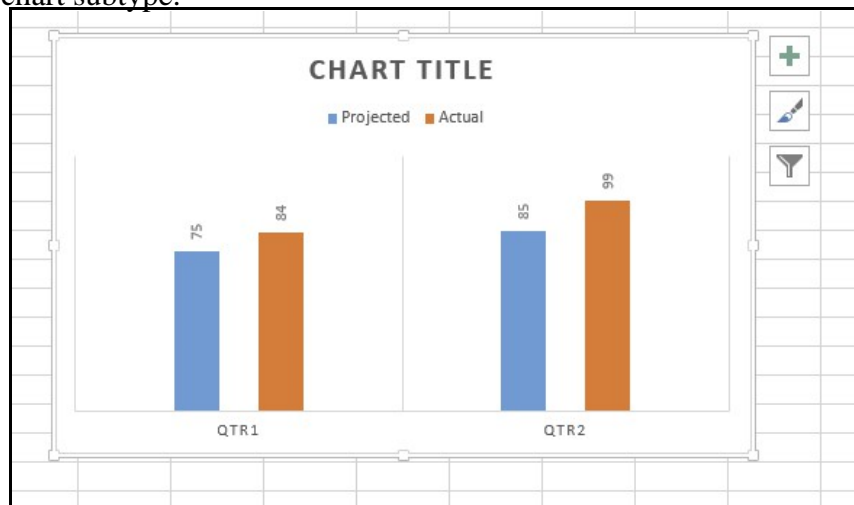


Figure: 7.6 Chart

To insert a linked Excel chart in PowerPoint

a) Open the Excel workbook that has the chart that you want.

Notes:

- The workbook must be saved before the chart data can be linked in the PowerPoint file.
- If you move the Excel file to another folder, the link between the chart in the PowerPoint presentation and the data in the Excel spreadsheet breaks.

- b) Select the chart.
- c) On the Home tab, in the Clipboard group, click Copy
- d) Open the PowerPoint presentation that you want and select the slide that you want to insert the chart into.
- e) On the Home tab, in the Clipboard group, click the arrow below Paste, and then do one of the following:
 - a. If you want the chart to keep its look and appearance from the Excel file, select Keep Source Formatting & Link Data
 - b. If you want the chart to use the look and appearance of the PowerPoint presentation, select Use Destination Theme & Link Data
- f) You can edit chart data in PowerPoint or in Excel by pressing Right Click->Edit Data

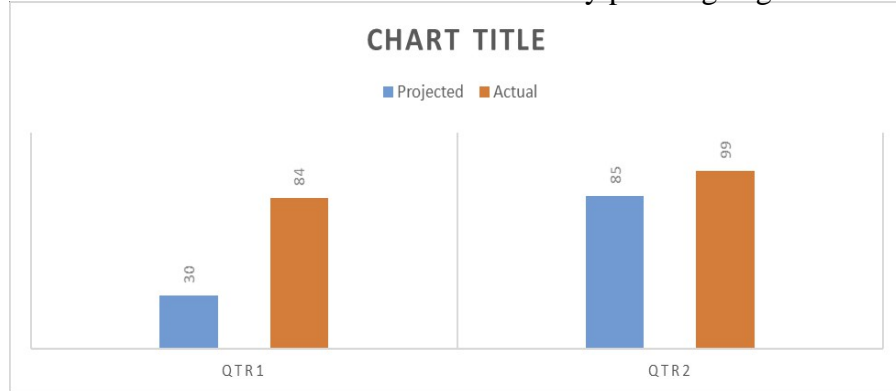


Figure: 7.7 Charts in PowerPoint

Copying chart as a picture from Excel sheet

- Use the option of **Special Paste**.

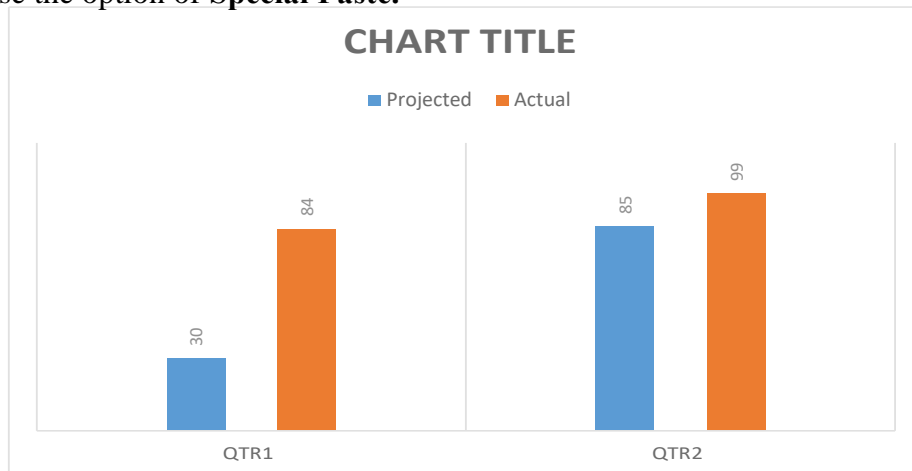


Figure: 7.8 Charts in PowerPoint Special Paste

Tasks:

- 1) **Sinusoidal Curves:** Generate and plot a 101 sampled sine and a cosine wave of 5 Hz frequency as shown below

- $\sin(2\pi ft)$
- $\cos(2\pi ft)$

- where $f = 5 \text{ Hz}$
- t ranges from 0 to 1 in step of 0.01

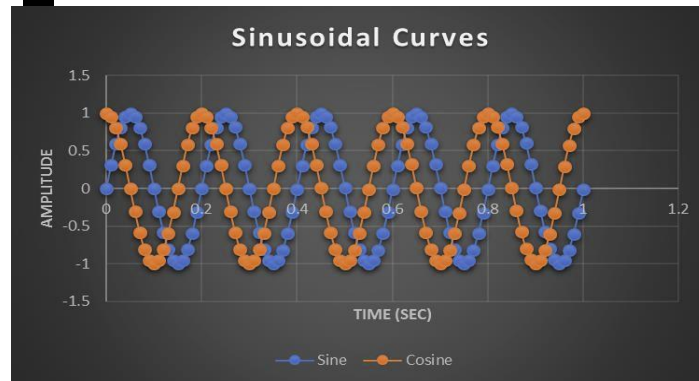


Figure: 7.9

Solution

