
UNIT 2 WINDOWS INTERFACE

Structure

- 2.1 Introduction
- 2.2 Objectives
- 2.3 Command Line Interface
- 2.4 Graphical User Interface
- 2.5 Some Important Windows Concepts
- 2.6 The Windows Start Button
- 2.7 Windows Properties
- 2.8 Working with Multiple Windows
- 2.9 Control Panel
- 2.10 Let Us Sum Up
- 2.11 Check Your Progress Exercise
- 2.12 Answers to Check Your Progress Exercise

2.1 INTRODUCTION

In the previous unit you learnt about basic concepts of a computer. We will now discuss windows operating system (operating systems are system software's necessary for starting and running a computer system) in a little more detail so that you become familiar with some terms of the operating system in order to be able to operate a system independently.

Operating Systems are the most important system software, which interact with the application software and the computer hardware. Operating Systems handles details such as executing programs, storing and processing data.

In information technology, the user interface (UI) or simply an “interface” is everything designed into an information device with which a person may interact. This can include display screens, keyboards, a mouse and the appearance of a desktop. It is also the way through which a user interacts with an application or a website.

There are mainly two types of interface i.e. Command Line Interface or Text based Interface and Graphical User Interface. You will learn in more details in coming sections of this unit.

2.2 OBJECTIVES

After going through this unit, you will be able to:

- differentiate between text based interface and Graphical User interface;
- change background color, Lock Screen & Wallpaper in Windows 10;

- use Windows operating system in managing files and folders;
- list various features of Windows operating system; and
- Explain how multiple Windows work.

2.3 COMMAND LINE INTERFACE

A command line interface (CLI) is a text-based user interface (UI) used to view and manage computer files. Command line interfaces are also called command-line user interfaces, console user interfaces and character user interfaces.

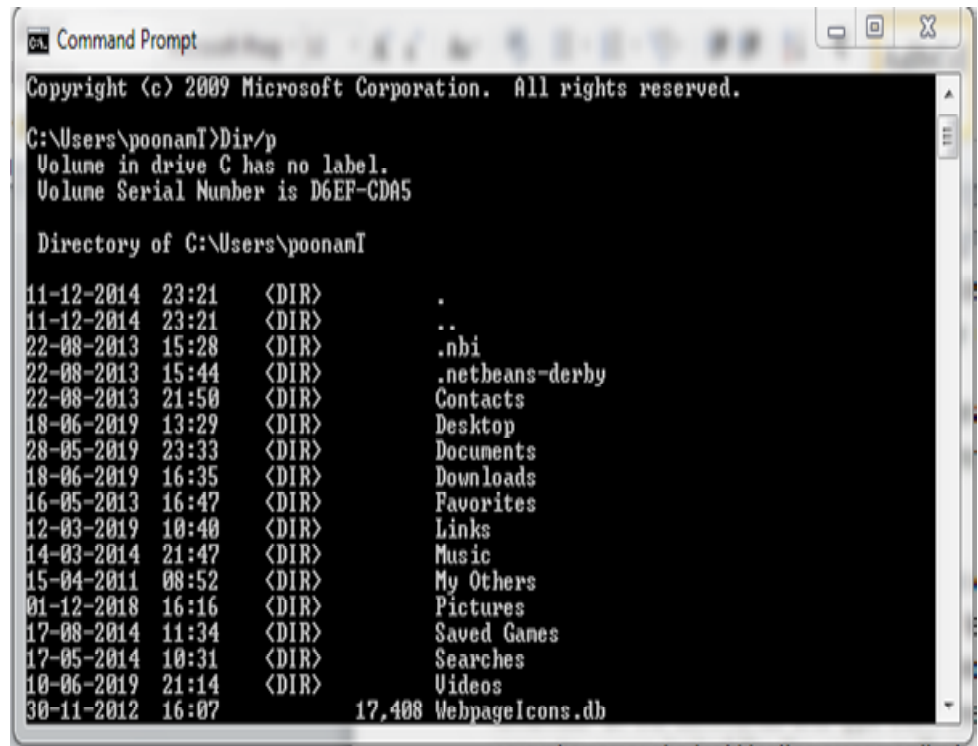


Fig. 2.1: Command line interface

Before the mouse, users interacted with an operating system (OS) or application with a keyboard. Users typed commands in the command line interface to run tasks on a computer.

Text-based Interface basically refers to a screen where everything is text. During early 1980s and earlier computers were primarily text oriented, it was only in the late eighties and early nineties that graphics evolved. Till then, the user was required to remember all the commands and type them every time he wanted to do a task.

Typically, the command line interface looks like a black box with white text. The user responds to a prompt in the command line interface by typing a command. The output or response from the system can include a message, table, list, or some other confirmation of a system or application action. The screen of command line interface is illustrated in Figure 1.

Unix shell is an example of command line interface. Also an example of command line interface is command prompt in the Windows operating system. In addition, programming languages can support command line interfaces.

2.4 GRAPHICAL USER INTERFACE

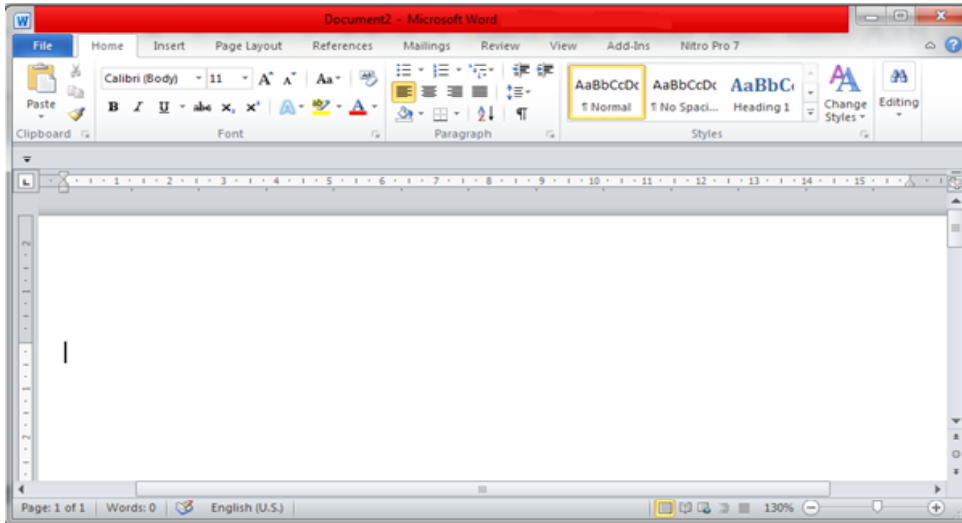


Fig. 2.2: MS -Word Application Window

Today, the graphical user interface (GUI) is the most popular user interface. A graphical user interface uses pictures to make it easier for the user. It is more users friendly. A GUI uses windows, menus and icons to execute commands. A mouse is the most common way to navigate through a GUI, although many GUIs allow navigation and execution via a keyboard.

Windows is a Graphical User Interface, which in simple terms means that whatever you see on the screen is made of geometrical shapes like squares and rectangles and is quite colourful.

Elements of a GUI include such things as windows, pull-down menus, buttons, scroll bars and icons. With the increasing use of multimedia as part of the GUI, audio, video and virtual reality is increasingly becoming the basic user Interface for many applications. MS Word is an example of GUI application as shown in Figure 2.2:

The following terms should be of helpful before reading further:

Mouse

Mouse is not a part of the actual interface but mouse is at the heart of the usage of GUI environment. Without learning how a mouse works, one cannot be comfortable with the graphical user interface. A mouse generally has two buttons: right click and left click (some have more for added functionality but mostly two buttons are used) as shown in Figure 2.3.

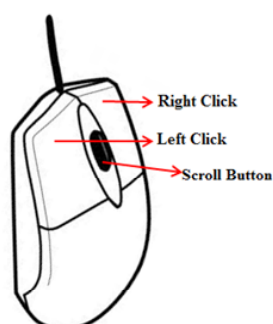


Fig. 2.3: Mouse

Following terms are used with the mouse functionally:

- **Click** – Mostly means pressing the left mouse button over a specific area once.
- **Double click** – Almost always means pressing the left mouse button twice in quick succession.
- **Drag** – Select the required on screen object, press the left mouse button and drag it to another area by holding the left mouse button. It moves the selected contents from the original place and drops them at the place the mouse button was released. You must remember that after all a mouse too is an input device just like keyboard. Therefore, it is perfectly alright to list it as one of the input devices.

Window

A window is the basic component of a GUI environment. Window is basically a rectangular area that acts as the container for other objects like menus, buttons etc., MS Power Point screen short is illustrated in Figure 2.4.

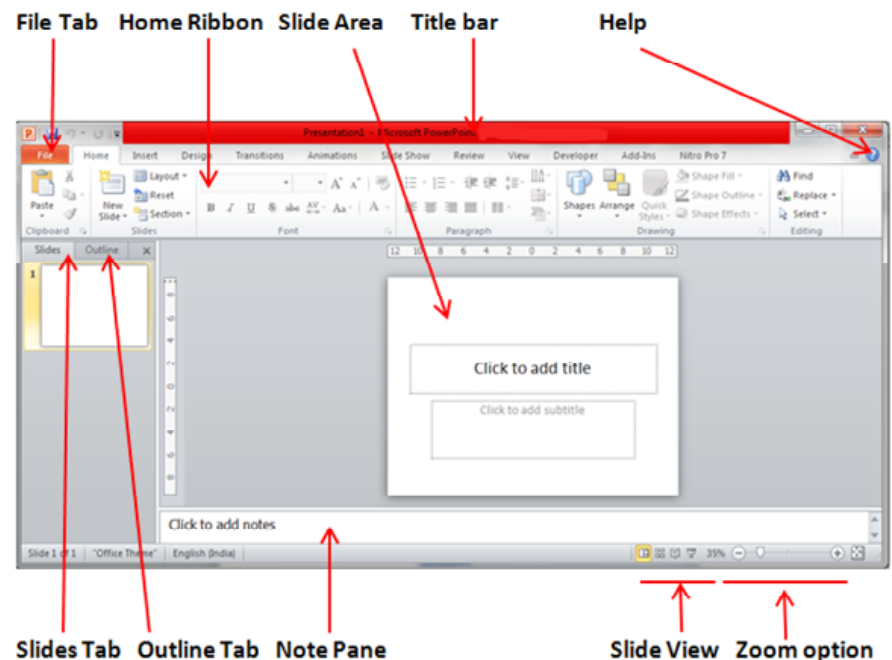


Fig. 2.4: MS PowerPoint Window

Buttons

A button is square or a rectangle in shape, which is clicked. It looks a little elevated from the surrounding area. It may have text or an image on its face. When a button is clicked it actually means that user is asking the computer to perform a particular task.

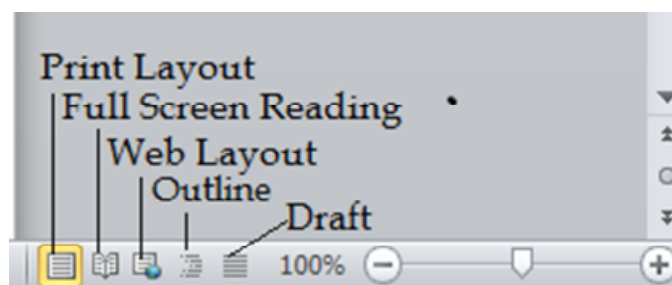


Fig. 2.5: View Button in MS-word Application

A menu is list of items each of which performs a specific task when clicked upon. Figure 2.6 illustrates the menus. Menus contain a group of items which when clicked upon perform a particular task just like buttons.

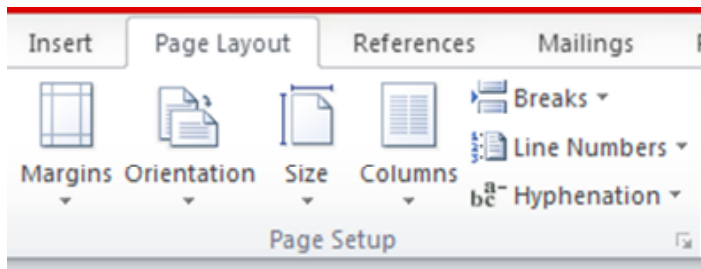


Fig. 2.6: Page Setup menu in MS Word Application

In Figure 2.6, Page Layout menu/Tab have different options like Margins, Orientation, Size Columns and each of these have a specific task orientated drop-down menu.

Popup Menus

A popup menu is similar to a menu but it appears when the right mouse button is clicked. The popup menu is illustrated in Figure 2.7.

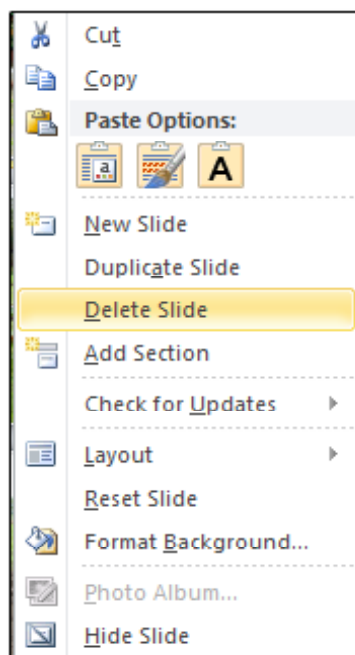


Fig. 2.7: Popup Menu

Icons

Icons or small pictures are present on desktop that represent files, folders, programs and other items. Icons are nothing but small images at times along with text that are there to make you aware of them and allow to do many tasks from one place, for example, people generally place icons and shortcuts to many applications that they have on their computers, so that they can start them whenever they want by just double clicking the icons. Different versions of Windows has slight differences in its appearances but the basic idea remains the same. The icons are illustrated in Figure 2.8.

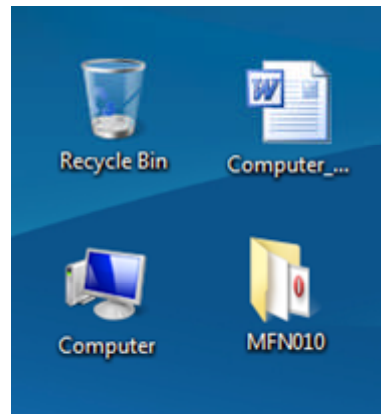


Fig. 2.8: Icons

2.5 SOME IMPORTANT WINDOWS CONCEPTS

Now that you understand some of the GUI concepts, you should learn things which are specific to the operating system that you wish to learn. There are some very important concepts, which are specific to Windows, which you should be very clear with before moving further.

The Desktop

When you start Windows, the large area you see is called the desktop. The Windows Desktop is simply your operating system main screen. Here you have access to an array of tools like the Start Menu, Taskbar, and other icons.

Look at Figure 2.9, which shows main window interface. You can easily modify how the desktop looks, according to your choice.



Fig. 2.9: Desktop

Using Recycle Bin

In a computer terminology, a “file” is a document and a “folder” is a container that can hold files and other folders.

Files and folders can become useless after a while and so they can be deleted if the need be after selecting the file or folder. The recycle bin icon is illustrated in Figure 2.10.

‘Recycle Bin’ is actually a place on your computer where all those files and folders go which are deleted, and could be put back if you desire so, thus it gives you a chance to have those files and folders back if you have deleted them by mistake.

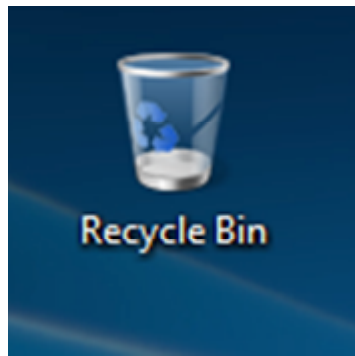


Fig. 2.10: Recycle Bin

But if they are deleted from the recycle bin itself, then they can never be recovered. So you should be careful while deleting anything from the recycle bin, as you will never be able to have it back.

Computer Icon

You can use 'Computer' icon to quickly and easily see everything on your computer. Double-click (press the left mouse button twice in quick succession) the 'Computer' icon on the desktop to browse through your files and folders. The Computer icon is shown in Figure 2.11.



Fig. 2.11: Computer Icon

Network Icon

At times, your computer might be connected to other computers on the network, then the 'My Network Places' icon allows you to browse through all the other computers on the network. Figure 2.12 illustrates the My Network Places icon. When properly set up, Windows allows you to use the network to your advantage and convenience, for example, if only one computer on the entire network has a printer attached to it (which is quite common), you can easily use that printer to print whatever you want. Also, if allowed, you can access the data in files and folders on other computers on the network. Thus networks are of great use and importance.



Fig. 2.12: Network Icon

2.6 THE WINDOWS START BUTTON

Windows 10 has a Start Menu which provides quick access to settings, folders, and programs and also includes tiles. The bottom of the Windows 10 Start Menu includes a search bar that allows you to search both your local PC and the web.

Start button is located at the bottom left-hand side of the screen when windows has finished loading and the desktop appears. It is one of the most frequently used areas; it is used to perform functions like starting application programs which is installed on your computer, finding a file, help, shutting down the computer etc.



Fig. 2.13: Windows Start Button

Cortana helps you with search and control

Cortana, the Windows voice assistant, shows up in Windows 10 as a search pane on the taskbar, which you can also use by saying 'Hey Cortana' and when you start searching the Start menu. Cortana is your personal assistant that works across your devices and other Microsoft services. Depending on the capabilities of your device and the version of Cortana you are using, Cortana can provide a range of features, some of which are personalized. On Windows, Cortana uses Windows Search to help you search the web and your Windows device; offers quick answers, translations, and calculations; sets alarms for you; and performs other tasks that do not require personalization. Cortana can give you search suggestions as soon as you start typing or speaking. Cortana can help you out with some tasks even if your device is locked, including setting a timer, playing music, or taking a quick note. This feature is on by default, but you can turn it off at any time in Cortana > Settings.



Fig. 2.14: Task switcher

Task Switcher

Task switcher allows you to switch between various tasks being performed by you.

You can switch to the previous window by pressing ALT+TAB key or cycle through all open windows and the desktop by holding down ALT and repeatedly pressing TAB. Release ALT to show the selected window.

Finding a File or Folder

These days with larger capacity auxiliary memory users have huge amounts of data on their PCs, because of which at times it is only human to forget where a file or folder is, in such situations you can use Windows itself to look for files and folders.

A quick way to get to your files/folder in Windows 10 PC is by using Cortana's search feature. Find your files in Windows 10 using the following steps:

- Select the search box on the taskbar
- Type the name of a document or folder into the search box. (see Fig. 2.15)
- You will see results for document or folder-on your computer.

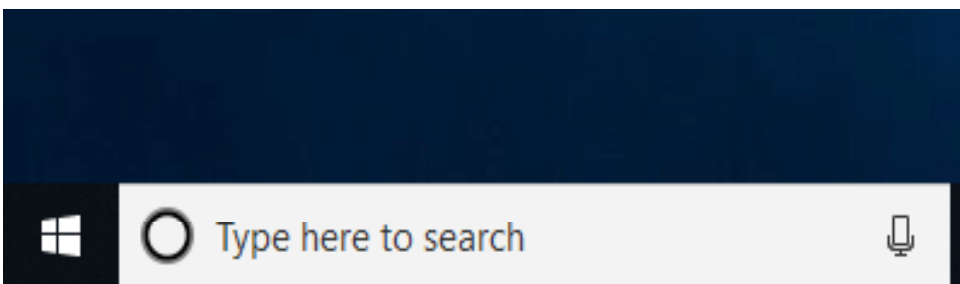


Fig. 2.15: Search Box on taskbar

Shutting Down the Computer

You do not directly shut down by simply switching off the computer system it damages the operating system. Therefore the proper way to shut down the operating system is through the start button. This way the operating system exits properly and is not damaged. The following steps could be followed:

- Press the start button.
- Click on Power Icon and select Restart or **Shut down** in the list (see Figure 2.16).

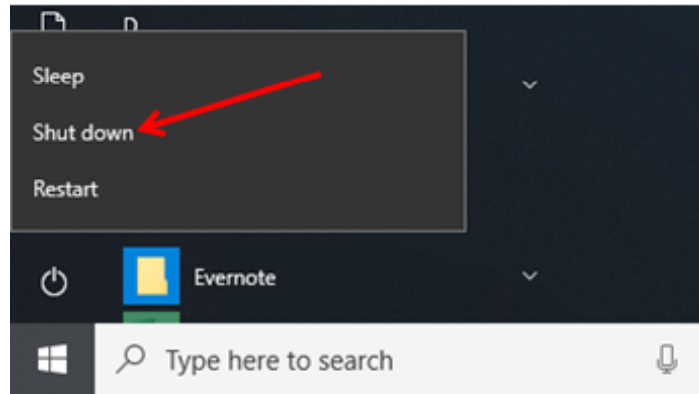


Fig. 2.16: Shut down option

2.7 WINDOWS PROPERTIES

In this section, we will discuss the window properties such as title bar, menu bar, tool bar, status bar etc. Figure 2.17 illustrates these properties:

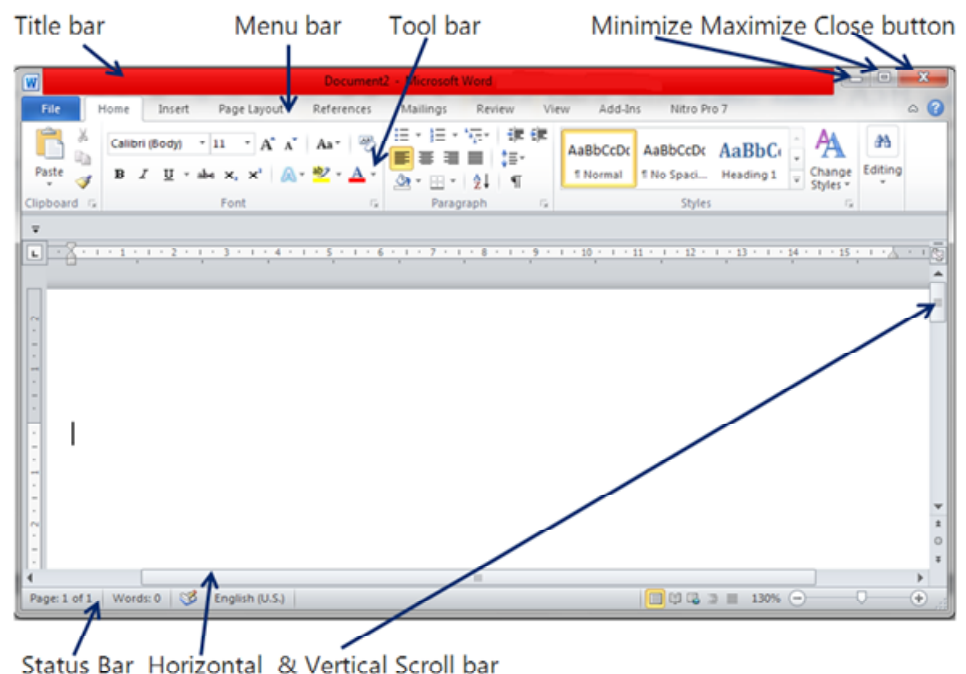


Fig. 2.17: Windows Property

Title Bar

Title Bar is generally the dark red colored strip at the top most of every window that displays the name of the program (e.g. Microsoft Word in above window) running within the windows.

Title Bar also contains some (mostly three) buttons located on the right hand corner. These buttons are minimize, maximize and close respectively. Minimize button reduces a window to the smallest size, maximize button expands and close button closes the window.

Menu Bar

Menu bar displays commands and list of menus each with individual pull down menus. Each pull down menu has a list of items to do specific jobs.

Toolbar contains different functionality of buttons, which have icons on their faces for specific tasks.

Status Bar

Displays messages, alerts and status messages regarding the Windows or other programs are displayed on status bar. For example the above figure shows MS Word's status bar indicating the progress of a particular operation that it is performing.

2.8 WORKING WITH MULTIPLE WINDOWS

Normally, when more experienced users work on Windows, more application software is opened simultaneously. For example, a user might be working on MS Excel and alongwith it other applications like MS Paint, MS Word, Internet Explorer etc. might be running.

For example, in the Figure 2.18, the user is working on MS Excel, MS Word, MS Paint, Internet Explorer etc. simultaneously while right now MS Excel is activated i.e., the window that is currently being worked on. While there may be many windows opened, active window is only one at a time.

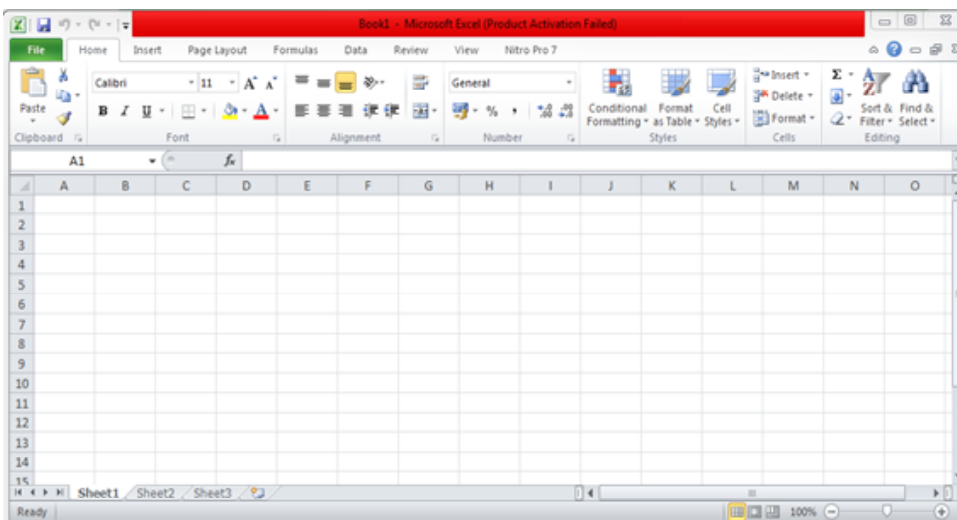


Fig. 2.18: Excel Window

Following methods are useful for windows operations:

Moving windows

In order to move a window (only a non-maximized window), you should follow the following steps:

- Click on the title bar of the window (donot release the mouse button);
- Drag the entire window to the desired on-screen location, then release the mouse button.

Resizing windows

Move the mouse pointer over the edge (pointed corner) of the window. The cursor becomes a double-pointed arrow as you can be seen in Figure 2.19. Drag the window border to resize the window.

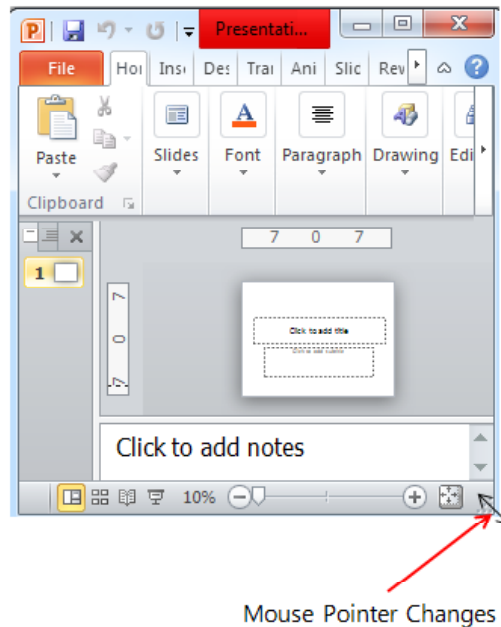


Fig. 2.19: Resizing windows

Automatically Arranging Windows Using Taskbar

Multiple windows could be arranged automatically vertically or horizontally, known as tiling or cascading.

Cascading:

- Right click on the taskbar.
- From the popup menu that appears select 'Cascade Windows' as shown in Figure 2.20.

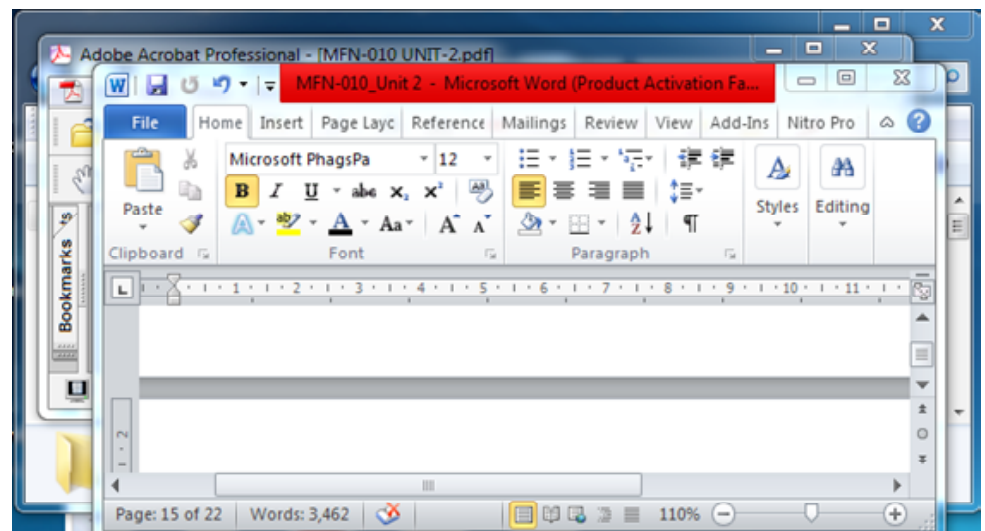


Fig. 2.20: Cascading Windows

Tiling Horizontally

- Right click on the taskbar.
- From the popup menu that appears, select 'Show Windows Stacked' refer to Figure 2.21.

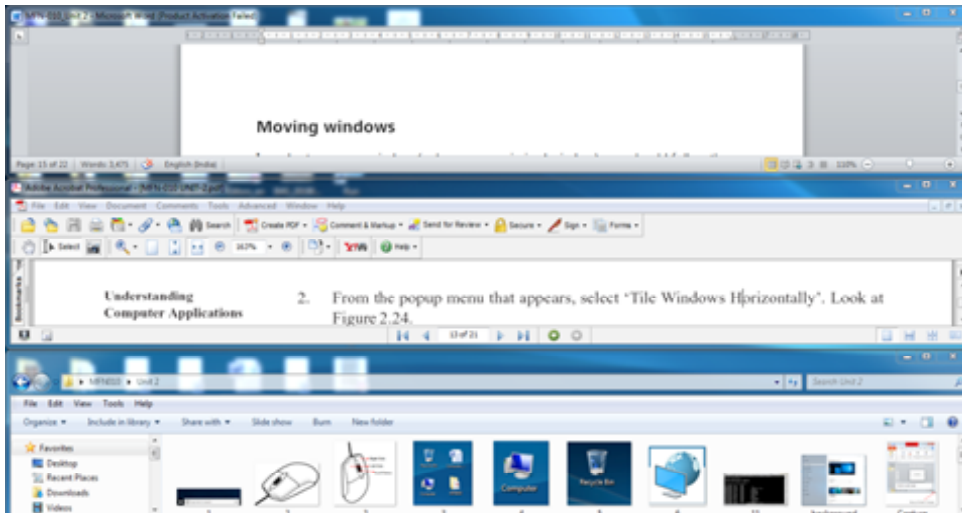


Fig. 2.21: Show Windows Horizontally

Tiling Vertically

- Right click on the taskbar:
- From the popup menu that appears, select '**Show Windows Side by Side**', Figure 2.22 shows vertical windows.

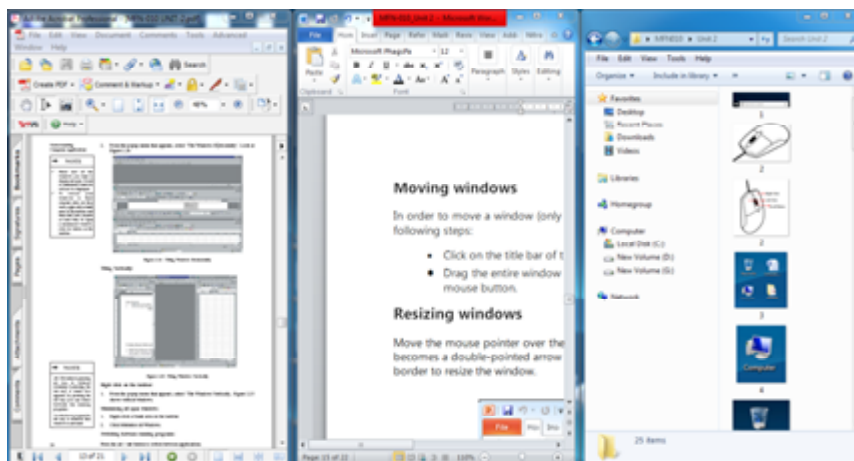


Fig. 2.22: Show Windows Vertically

NOTE

Make sure all the windows you want to display in cascade mode are open. Closed or minimized windows are not cascaded.

To restore your windows to their original state, right click on the blank area of the taskbar and then click "**Undo Cascade**". In the similar manner for **Show Windows Stacked** or **Show Windows side by side**, you can select **Undo Show Stacked** or **Undo Show side by side**.

Minimizing all open windows

- Right-click a blank area on the taskbar.
- Click Minimize All Windows.

Switching between running programs

Press the alt + tab button to switch between applications.

2.9 CONTROL PANEL

Control Panel is a very important place. As the name suggests, through the facilities available there, you can change almost anything and everything. Control Panel is a place where all the settings of both the hardware and the software could be changed. Through the Control Panel, you can adjust network settings, keyboard and mouse function, passwords and user accounts, and desktop backgrounds among many others. Figure 2.23 illustrates the control panel.

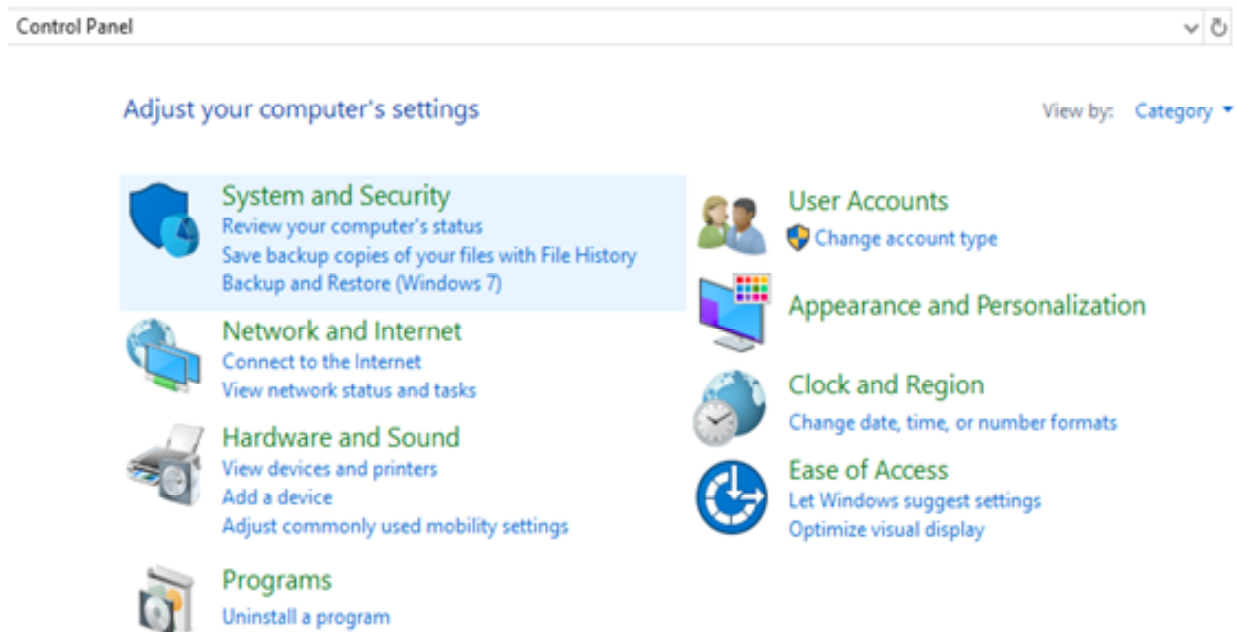


Fig. 2.23: Control Panel

How to Open the Control Panel from Cortana Search

- Go to your taskbar and click Cortana Search.
- Now, type "Control Panel" (no quotes) in the box.
- Select the Control Panel from the results.

How to Open the Control Panel via the Start Menu

- Open the Start menu by clicking the Windows icon on your taskbar.
- Scroll down until you find Windows System. Click it to expand its contents.
- Select the Control Panel from the options.
- If you frequently access the Control Panel, you will see it under the Most Used segment in the Start Menu.

Changing system date and time

You can change date and time using the following steps:

- Open the Start menu by clicking the Windows icon on your taskbar.
- Scroll down until you find Windows System. Click it to expand its contents.
- Select the Control Panel from the options.
- Select 'Clock and Region' option from Control Panel window. (see Fig. 2.23)

- Select 'Set the time and date' option.
- Now Date and Time window is displayed on screen.

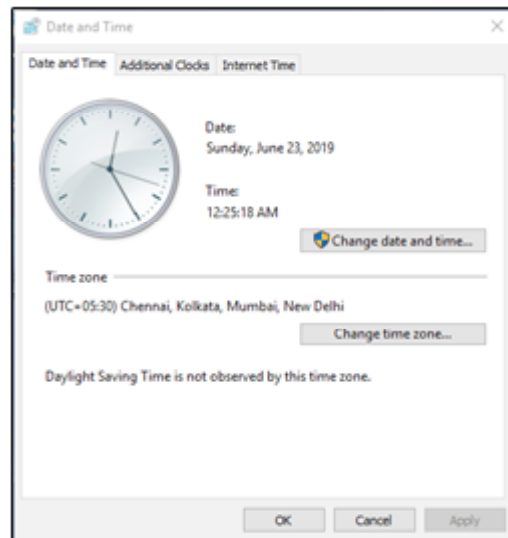


Fig. 2.24: Date and Time window

- Click on “change date and time” button under Date and Time window. (see Figure 2.24)
- Now, Date and Time Setting window is displayed on the screen, you can change date and time according to your needs. (see Figure 2.25)

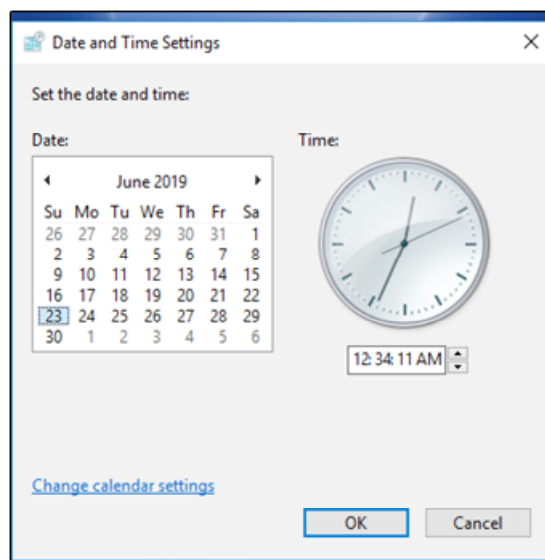


Fig. 2.25: Date and Time Setting window

Wallpaper, Color, Lock Screen in Windows 10

Microsoft always offers a decent range of personalization capabilities in its operating system. Right-click on the desktop, and click on Personalize. Personalization Settings allows you to change the background colors and lock screen image, wallpaper and themes on your PC.

Changing the Wallpaper

Microsoft offers an extensive collection of Windows 10 Wallpapers on its website and if you want you can download some and set them on your PC.

You can do the following for Changing the Wallpaper in Windows 10:

- Right-click on the desktop.
- Go to Personalize and click on Background to change the wallpaper of your Windows 10 PC.
- Select the desired image from the gallery or browse the picture. (see Figure 2.26)
- You can also choose a Fit for the picture.

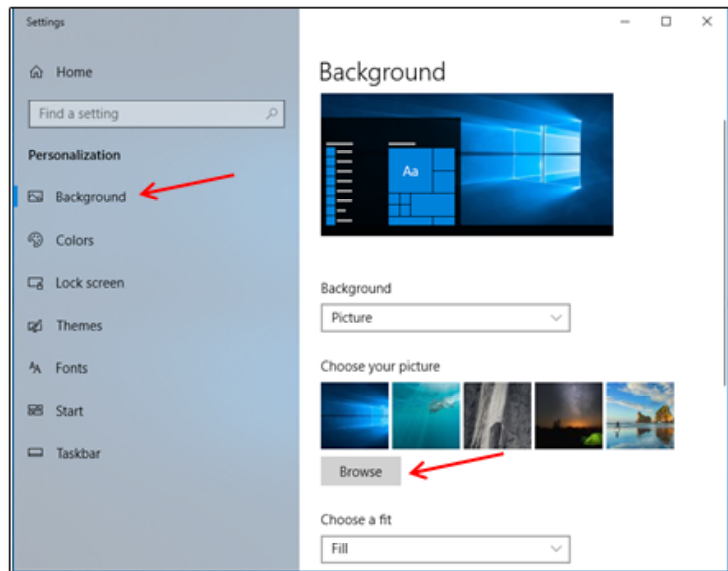


Fig. 2.26: Changing the Wallpaper

Changing the Background Colors

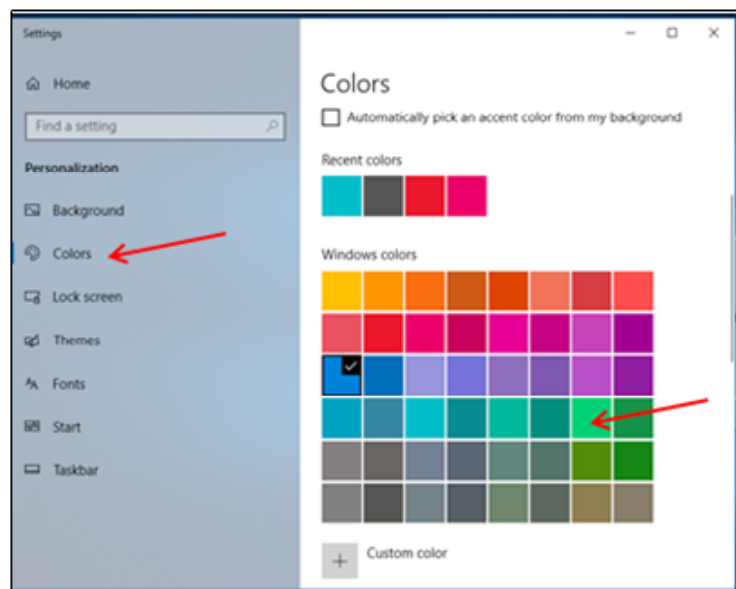


Fig. 2.27: Changing the Background Colors

You can do the following for changing the Background Colors in Windows 10:

- Right click on the desktop, click 'Personalize' in the appearing popup menu.
- Click on Color option.

- Select the desired color or custom color from the palette to change the colors of your Windows 10 PC. (see Figure 2.27)

Change Lock Screen

You can change the lock screen image here too. Click on Lock Screen tab (see Figure 2.27) and choose your picture. You can set one of the built-in ones, or you can browse and select your own image as lock screen. You can also set your photographs here as the lock screen images.

Changing Mouse and Keyboard Properties

The mouse and keyboard could also be modified according to your choice. You can change the color and size of mouse pointer (mouse arrow) could be chosen from a variety of different pointers. Similarly, keyboard settings would include speed of printing a character when it is pressed without releasing and the speed of blinking of the cursor.

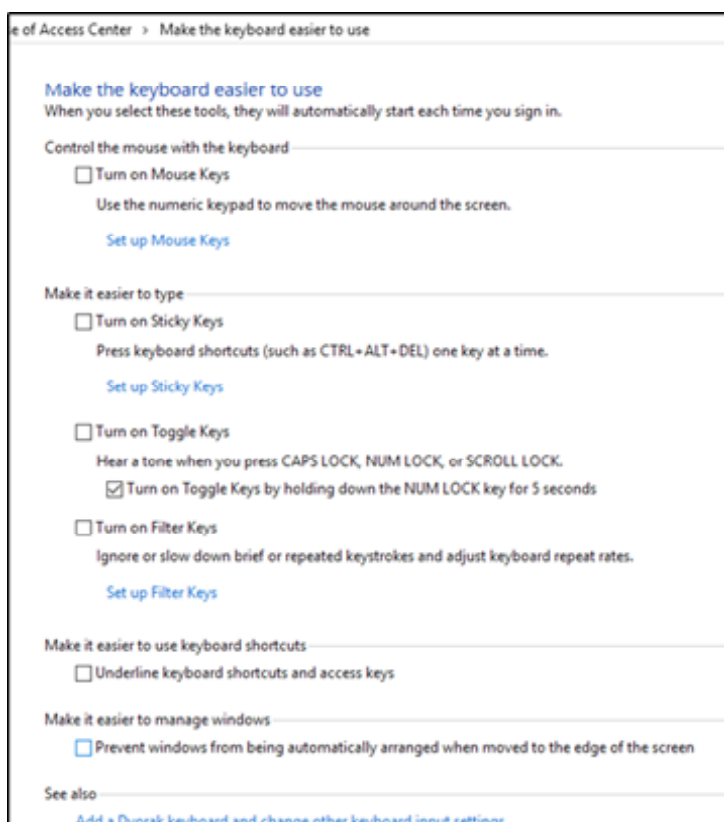


Fig. 2.28: Keyboard Setting

The step for changing the settings for keyboard is as follows:

- Open Control Panel. (see Figure 2.23)
- Go to Ease of Access Center.
- Select “how your keyboard works” option and windows appears on your screen as same as Figure 2.28.
- Under same windows, click on **Keyboard settings** to open Keyboard Properties.
- In the Speed tab, under Character repeat, adjust the Repeat delay and Repeat rate to your preference.

Mouse Properties

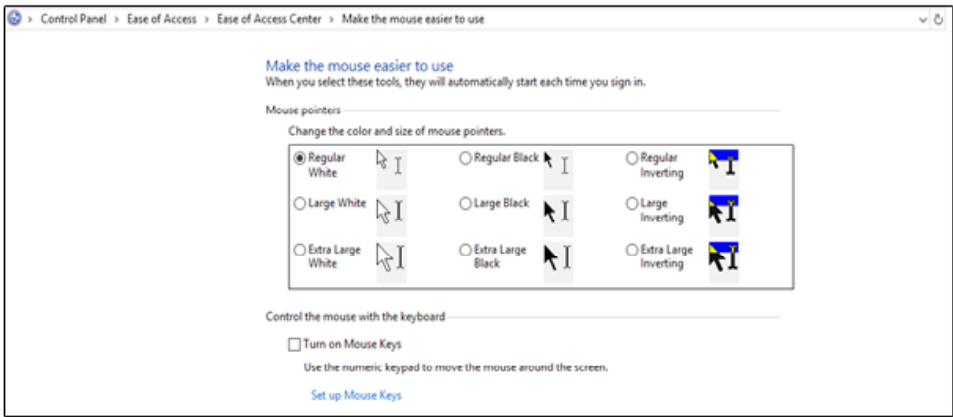


Fig. 2.29: Mouse Properties

The steps for changing the settings for mouse are as follows:

- Open Control Panel. (see Figure 2.23)
- Go to Ease of Access Center.
- Select “how your mouse works” option and windows appears on your screen as same as Figure 2.29.
- Here, you can change the color and size of mouse pointer as per your choice.
- Under same windows, click on **Mouse settings** to open Mouse Properties to change mouse settings as per your need.

2.10 LET US SUM UP

In this unit we introduced various components of windows like Desktop, Start button, Start menu, Tool bar, Menu bar, Computer, Recycle Bin and their functionalities. We also explained how to work with multiple windows. This unit also talks about control panel, which helps the user to customize his computer setting.

2.11 CHECK YOUR PROGRESS EXERCISE

1. What are the two main types of user interfaces?
.....
.....
.....
.....
2. What is the difference between a folder and file?
.....
.....
.....
.....

3. What is the use of a control panel?

.....

.....

.....

4. What do you understand by the term recycle bin?

.....

.....

.....

2.12 ANSWERS TO CHECK YOUR PROGRESS EXERCISE

1. There are mainly two types of interface i.e. Command Line Interface or Text based Interface and Graphical User Interface. A command line interface (CLI) is a text-based user interface (UI) used to view and manage computer files. Command line interfaces are also called command-line user interfaces.

GUI is an interface that uses icons or other visual component to interact with electronic devices, rather than only text via a command line. For example, all versions of Microsoft Windows are a GUI, whereas MS-DOS is a command line.

2. Files are used to store data while folders store files and other folders on your computer. Files are a set of information (text, pictures, presentation, word document and audio) and store the data in manner to make difference from one set of information to another. Folder contains different format files and other folders.
3. A control panel holds a group of tools that help to change the S/W and H/W settings. The Control Panel is a component of Microsoft Windows that provides the ability to view and change system settings.
4. Recycle bin is an area which usually holds deleted files until it reaches a user configurable percentage of a disk's capacity. At that point it discards them. It can be opened up to restore something which had been thrown away earlier.