

Operating System

Learning Objectives - Students will learn about:

1. Operating System
2. Booting
3. Function of an OS
4. Type of OS
5. Operating System Interface
6. Importance "Shut Down"

Operating System

Operating System is a system software. It may regarded as the backbone of a computer, and is an intermediary between the user and the computer.

The basic task of Operating System:

1. It recognized input from the keyboard
2. It sends output to the display screen
3. It keeps track of files and directories on the disk
4. It controls the devices (input and output devices) such as printer
5. It acts as an interface between the hardware of a computer and the user.



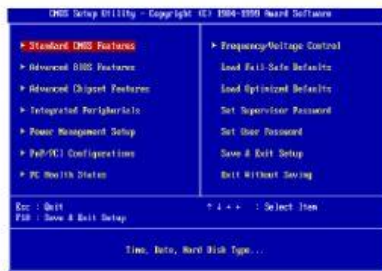
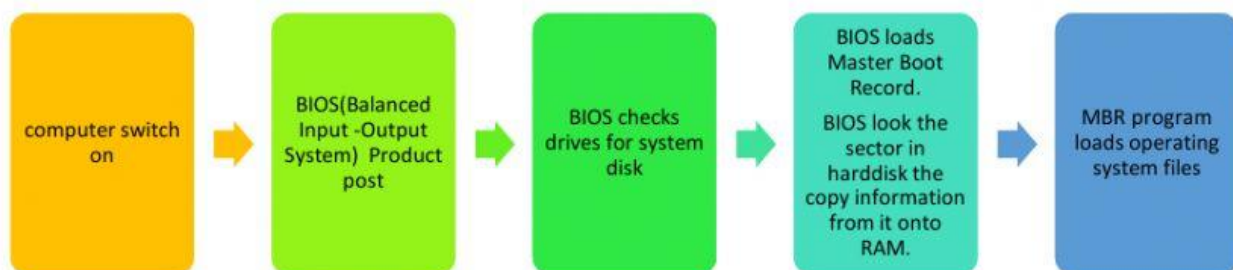
Booting

Booting is a process that starts the operating system when the user turns on a computer system.

Basically there are 2 types of booting:

- Warm boot : it is pressing the restart button while the computer is already on
- Cool boot : it is pressing the power switch when the computer is switched off

Process booting:



Function of an Operating System



Types of Operating System

- **Single – User Operating System**

This system is designed so that only one user can effectively work on a computer at a time.

For example : Windows 98, DOS, and MAC OS

- **Multi – User Operating System**

This system supports multiple users at the same time and/or different times.

This operating system has requirements of the different users are balanced, and that each of the programs they are using has enough and separate resources so the problem of one user doesn't affect the entire community of users.

For example : UNIX, Windows NT, Novel Netware.

Operating System Interface

The operating system provides a platform on which the application program runs, there are 2 types of the interface:

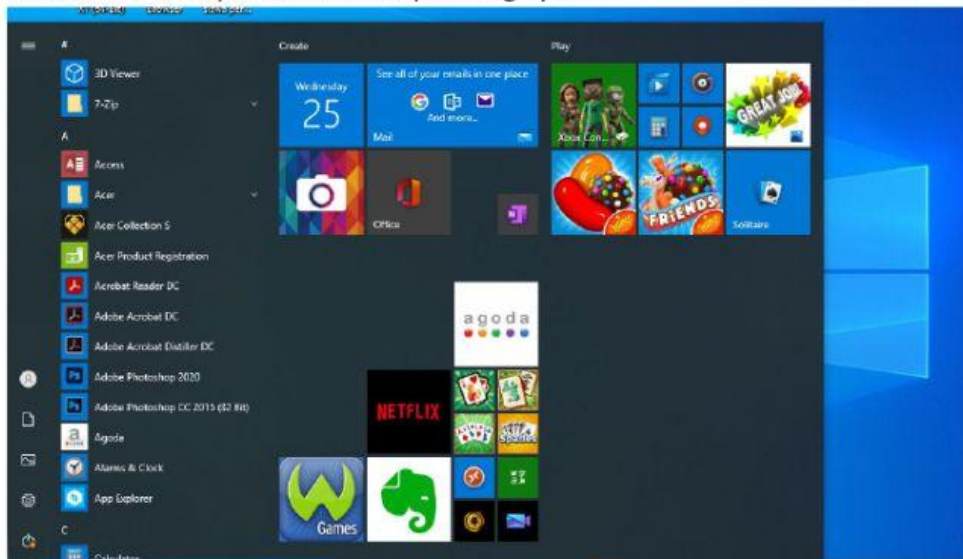
- **Character User Interface (CUI)**

In CUI the operating system provides an environment where the user needs to type commands to perform. For example : Disk Operating System (DOS)



➤ Graphical User Interface (GUI)

In GUI, the operating system provides a graphical environment where the mouse acts as a pointing device. For example: Windows Operating System



Importance of Shut Down

If you switch off the computer without giving a proper shutdown command then there are very high chance of losing the data and it may also damage the windows operating system.

Shutdown option:

1. Switch user : it switches the user without closing the programs currently in use
2. Log off : it closes all programs currently in use
3. Lock : it locks the computer and the work on programs running can be resumed on unlocking the computer.
4. Restart : it shuts down the windows properly and then start again immediately
5. Sleep : it puts the computer in a low power state and saves the work being done.

Worksheet 2

A. Fill in the blanks.

1. ... and ... are the two types of booting.
2. An operating system is a ... software.
3. When the system is switched on then the ... loads onto the RAM.
4. ... operating system is selected when one user needs to do one thing at a time.
5. An operating system works as a ... manager.

B. Match the following.

- | | | |
|-----------------------|-----------------------|--|
| 1. CUI | ☐ | ☐ computer shuts down and starts immediately |
| 2. MBR | ☐ | ☐ CPU is managed efficiently |
| 3. Standby | ☐ | ☐ stored information |
| 4. Restart | ☐ | ☐ commands are written to perform an action |
| 5. Process management | ☐ | ☐ computer is in low power state. |

C. Give differences between:

1. Warm boot and cold boot
2. CUI and GUI
3. Single-user operating system and multi-user operating system
4. File management and memory management