UNIT -4

Operating system

- **Definition**
  - It is a software
  - An operating system is system software.
  - An operating system is manager of the computer system.
  - An operating system is a setup program that managers the intaire the resources of the computer system such as I/O devices, cpu, system software, application software, memory, file, disk etc.
  - The most important program that runs own the computer.
  - It is used to run other program.
  - An operating system is a software that enable the computer hardware to communicate with each other.
  - An operating system provides platform to the user to communicate with the computer system.
- **Example of operating system-**
  - Microsoft operating system-
    Win'3.0, Win'3.1, Win'95, Win'NT, Win'97, Win98(1st edition), Win'98(2nd edition), Win'ME, Win'2000 server, Win'2007, Win'XP(home edition) ie personal vies, Win'XP(perfossional), Win'Vista, Win'7, Win'8.
  - Non-Microsoft operating system-
    UNIX, DOS, LINUX, OS/2, Palm, Mac, Android etc.

- **Kinds of operating system according to future**
  1. GUI 2. CUI

1. **GUI(Graphical User Interface)-** It is user friendly that eliminates the need of typing command and allow us to enter command by pointing then on the computer screen such as LINUX, XP, VIST,WINDOW 98 etc.

2. **CUI (Command User Interface/ Character User Interface)-** CUI not friendly and allow us to typing each and every command for interacting with O/S
   Eg. Such as UNIX, DOS, etc

- **Multiuser-** A multi user operating system allows or multiple users to use the same computer at the same time and or different time.
  Eg. LINUX, Win200, Win'NT, LNIX, Win2003 etc.

- **Multiprocessing-** Operating system capable of supporting and utilizing more than one computer processor. It supports running a program or more than one CPU.
  Eg. LINUX, UNIX,Win'2000 etc.

- **Multithreading-** An operating system that allows different part of the software program to run con-currently.
  Eg. LINUX, UNIX, Win'2000 etc.

- **Multitasking**- An operating system i.e, capable of allowing multiple program to run at the same time or allow more than one program to run concurrently.
  Eg. Win'2000, Intel RMX-86, UNIX.
- **Multiprogramming**- An operating system in which more than one user executes more than one process in a single CPU.
  A multiprogramming an operating system that allow multiple user to run multiple program to in a single CPU that is called multiple programming. Multiple user + Multiple task + Single.
  Eg. LINUX, Win'2000,UNIX etc.

- FUNCTION OF OPERATING SYSTEM

- **Major Function**- Operating system act as a platform for developing application program. An as main function are-
  1. **Act as a Extended Machine**-The operating system act as an extended machine by translating your command into machine languages instruction on operating system retranslate the output back into a user under tenable languages. So operating system manages the system software translators.
  2. **Acts as Resources Manager**- An operating act as resources manages by controlling and allocating nefarious hardware and software resources to different user in an optional & efficient code. The task of resources manager in the most important function of the operating system.
  3. **Act as a constant Program Interface**- The operating system act as a constant program interface that allow. We to develop an application on a computer and executed it on the other computer. It does not any/produce any dissimilarity in the configuration of computer is different as the application remain at the same time.

- **Other Function of operating system are-**
  1. System Tools(program) user to monitor computer performance develop problems and monitor part of the system.
  2. A set up libraries of function in which program may use to perform specially tasks specially relating to interface with computer component.

- **Basic Function of operating system(General)**

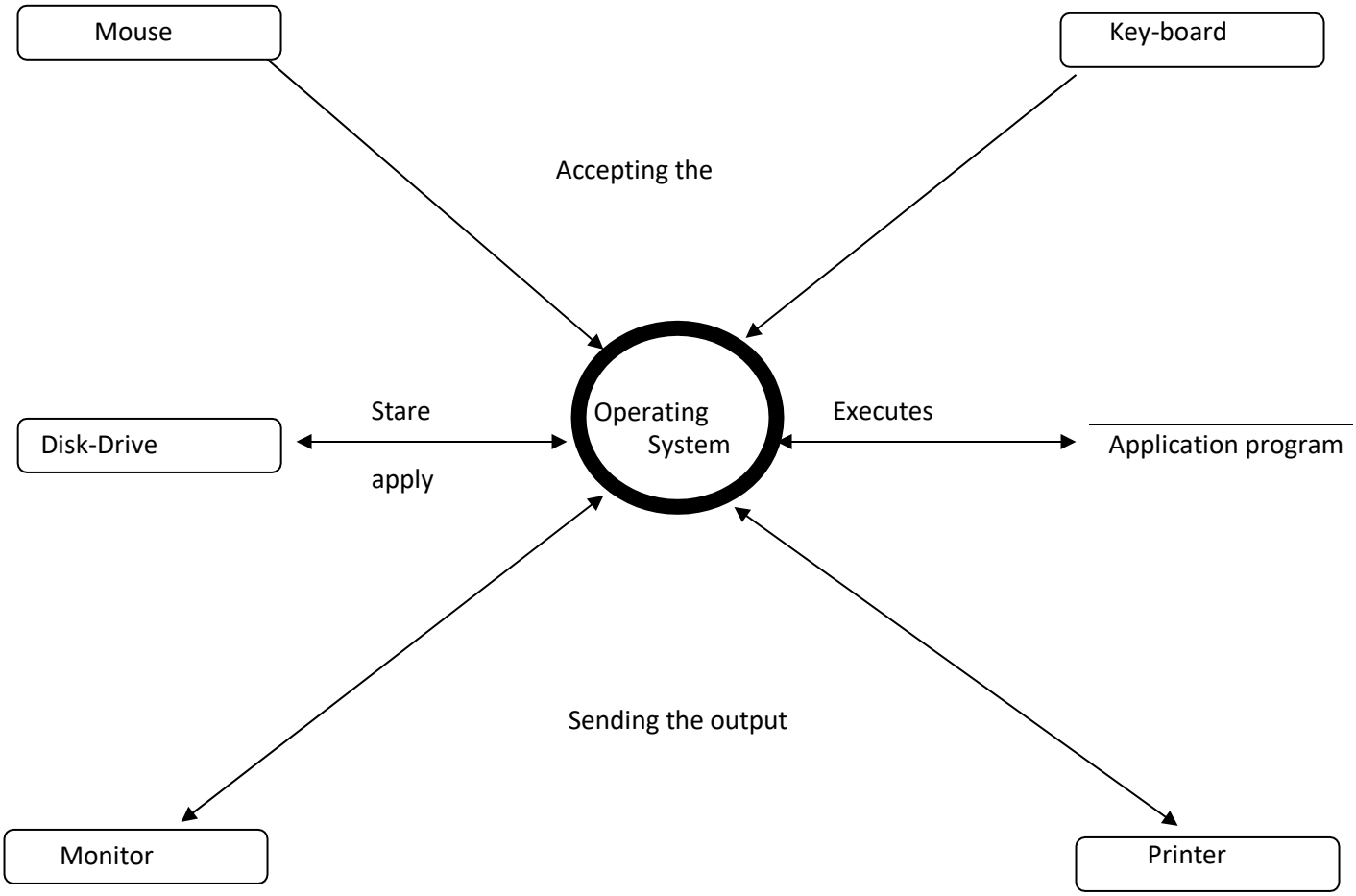

Figure 1

1. Perform input output operation.
2. Perform the allocation and reallocation of memory.
3. Provides security be ensuring controlled access to resources.
4. Monitor various job running on computer of there security.
5. Deciding the priority of job.
6. Controls the devices deriver attached to the computer.
7. Control the files places on the computer of their security.

- **General Function of operating system**

1. I/O Management
2. Processor Management
3. Device Management
4. File Management
5. Storage Management

- **Distributed operating system-**
  - A type of operating system.
  - In a distributed operating system processing user request are carry out independently in more than one location.
  - In a distributed operating system the work load is separate between two or more computer or linked together by a communication network such as telephone line or based line buses etc.
  - The processor in distributed operating system has its own resources.
  - Example- AMOEBA operating system.
  - The processor in distributed operating system do not share clock memory and peripheral devices.

- **It is based on two model-**

1. Client server model. 2. Peer to Peer Model

1) Client server model-

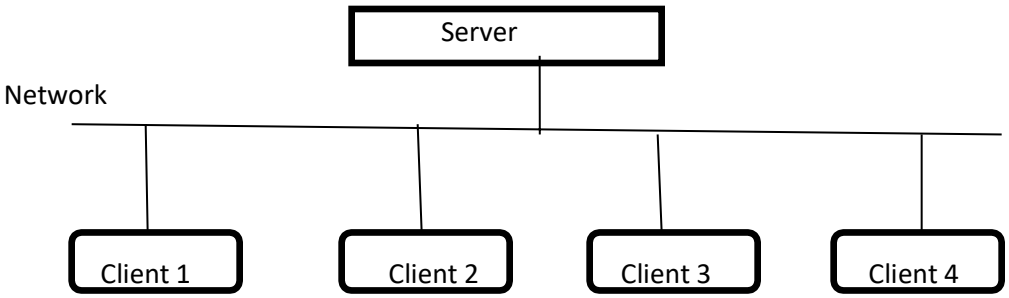

Figure 2

The client sends a resources request to the server and the server in turn provides the request resources as the response back to the client.

2) Peer to Peer model-

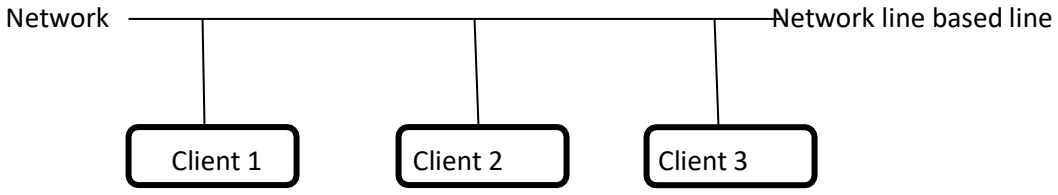

Figure 3