

EMERGING TECHNOLOGIES IN LIBRARIES & INFORMATION CENTERS

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(Foundation –IV)



Computer Software

- The term 'software' refers to the set of electronic program instructions or data a computer processor reads in order to perform a task or operation.
- Software can be categorized according to what it is designed to accomplish. There are two main types of software:
 - systems software and
 - application software.

System Software & Application Software

Systems software includes the programs that are dedicated to managing the computer itself, such as the operating system, file management utilities, and disk operating system (or DOS). The operating system manages the computer hardware resources in addition to applications and data.

Application software, or simply applications, are often called productivity programs or end-user programs because they enable the user to complete tasks, such as creating documents, spreadsheets, databases and publications, doing online research, sending email, designing graphics, running businesses, and even playing games! Application software is specific to the task it is designed for.

Operating System

- An operating system act as an intermediary between the user of a computer and computer hardware. The purpose of an operating system is to provide an environment in which a user can execute programs in a convenient and efficient manner. An operating system is a software that manages the computer hardware. The hardware must provide appropriate mechanisms to ensure the correct operation of the computer system and to prevent user programs from interfering with the proper operation of the system.

Operating System(cont...)

Definition of Operating System:

- An Operating system is a program that controls the execution of application programs and acts as an interface between the user of a computer and the computer hardware.
- A more common definition is that the operating system is the one program running at all times on the computer (usually called the kernel), with all else being applications programs. An Operating system is concerned with the allocation of resources and services, such as memory, processors, devices and information. The Operating System correspondingly includes programs to manage these resources, such as a traffic controller, a scheduler, memory management module, I/O programs, and a file system.

Operating System(cont...)

Functions of Operating System

Operating system performs three functions:

1. Convenience: An OS makes a computer more convenient to use.
2. Efficiency: An OS allows the computer system resources to be used in an efficient manner.
3. Ability to Evolve: An OS should be constructed in such a way as to permit the effective development, testing and introduction of new system functions without at the same time interfering with service.

Operating System as User Interface

- Every general purpose computer consists of the hardware, operating system, system programs, and application programs. The hardware consists of memory, CPU, ALU, I/O devices, peripheral device and storage device. System program consists of compilers, loaders, editors, OS etc. The application program consists of business program, database program.

OS is designed to serve two basic purposes:

1. It controls the allocation and use of the computing system's resources among the various user and tasks.
2. It provides an interface between the computer hardware and the programmer that simplifies and makes feasible for coding, creation, debugging of application programs.

The operating system must support the following tasks. The tasks are:

1. Provides the facilities to create, modification of program and data files using and editor.
2. Access to the compiler for translating the user program from high level language to machine language.
3. Provide a loader program to move the compiled program code to the computer's memory for execution.
4. Provide routines that handle the details of I/O programming.