



SNS COLLEGE OF TECHNOLOGY

Kurumbapalayam (Po), Coimbatore – 641 107

An Autonomous Institution

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Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

COURSE NAME : 23CST202-OPERATING SYSTEMS

II YEAR / IV SEMESTER

Unit 1-OVERVIEW AND PROCESS MANAGEMENT

Topic : Operating Systems Introduction



Introduction



What is an Operating System?

- An operating system is a program that manages the computer hardware.
- It also provides a basis for application programs and acts as an intermediary between a user of a computer and the computer hardware.
- The purpose of an operating system is to provide an environment in which a user can execute programs.



GOALS OF AN OPERATING SYSTEM



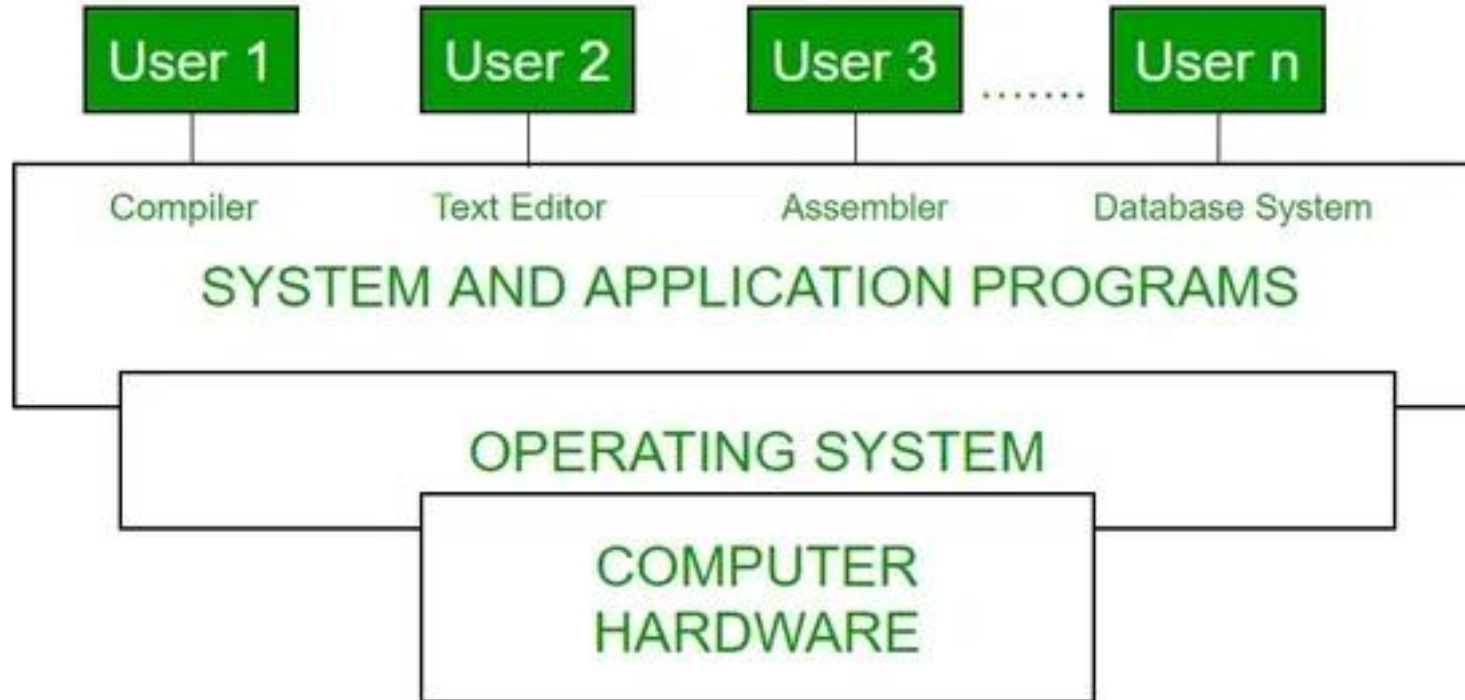
- The primary goal of an operating system is thus to make the computer system convenient to use.
- The secondary goal is to use the computer hardware in an efficient manner

Components of a Computer System



- An operating system is an important part of almost every computer system.
- A computer system can be divided roughly into four components.
 - i. Hardware
 - ii. Operating system
 - iii. The application programs
 - iv. Users

Components of a Computer System



Components of a Computer System



The hardware - the central processing unit (**CPU**), the memory, and the Input/output (**I/O**) devices-provides the basic computing resources.

- The application programs- such as word processors, spreadsheets, compilers, and web browsers- define the ways in which these resources are used to solve the computing problems of the users.
- An operating system is similar to a *government*. *The* OS simply provides an environment within which other programs can do useful work

Components of a Computer System



Abstract view of the components of a computer system.

- Operating system can be viewed as a resource allocator.
- The OS acts as the manager of the resources (such as CPU time, memory space, file storage space, I/O devices) and allocates them to specific programs and users as necessary for tasks.
- An operating system is a control program. It controls the execution of user programs to prevent errors and improper use of computer.

What Operating Systems Do



Depends on the point of view

- Users want convenience, **ease of use** and **good performance**
- Don't care about **resource utilization**
- But shared computer such as **mainframe** or **minicomputer** must keep all users happy
- Users of dedicate systems such as **workstations** have dedicated resources but frequently use shared resources from **servers**
- Handheld computers are resource poor, optimized for usability and battery life
- Some computers have little or no user interface, such as embedded computers in devices and automobiles

What Operating Systems Do



OS is a **resource allocator**

- Manages all resources
- Decides between conflicting requests for efficient and fair resource use
- OS is a **control program**
- Controls execution of programs to prevent errors and improper use of the computer



THANK YOU