Operating System

Books:

i) Operating System Concepts – A. Silberschatz, P. Galvin, G. Gagne (6th edition), John Willy & Sons.

Introduction

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.

An amazing aspect of operating system is how varied they are in accomplishing these tasks.

Mainframe operating systems are designed primarily to optimize utilization of hardware.

Personal computer operating systems support complex games, business applications, and everything in between.

Handheld computer operating systems are designed to provide an environment in which a user can easily interface with the computer to execute programs.

Thus, some operating systems are designed to be **convenient**, others to be **efficient**, and others some combination of the two.

An operating system is an important part of almost every computer system.

A computer system can be divided roughly into four components:

i) Hardware

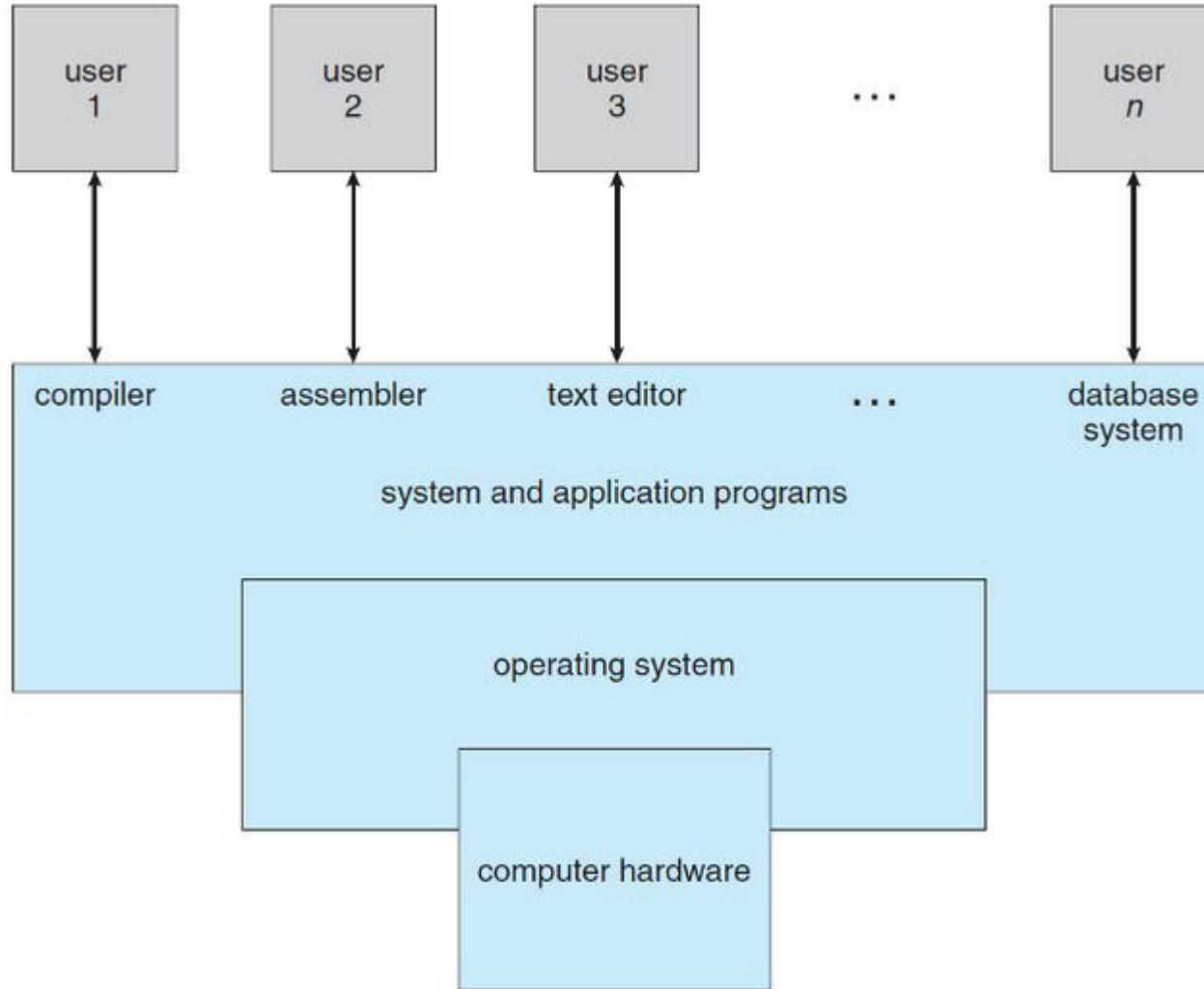ii) Operating System

iii) Application programs

iv) Users

Fig 1: Abstract view of the components of a computer system.

The hardware – the central processing unit (CPU), the memory, and the input/output devices – provides the basic computing resources.

The application programs – such as word processors, web browsers – define the ways in which these resources are used to solve the computing problems of the users.

The operating system controls and coordinates the use of hardware among the various application programs for various users.