INTRODUCTION TO COMPUTING
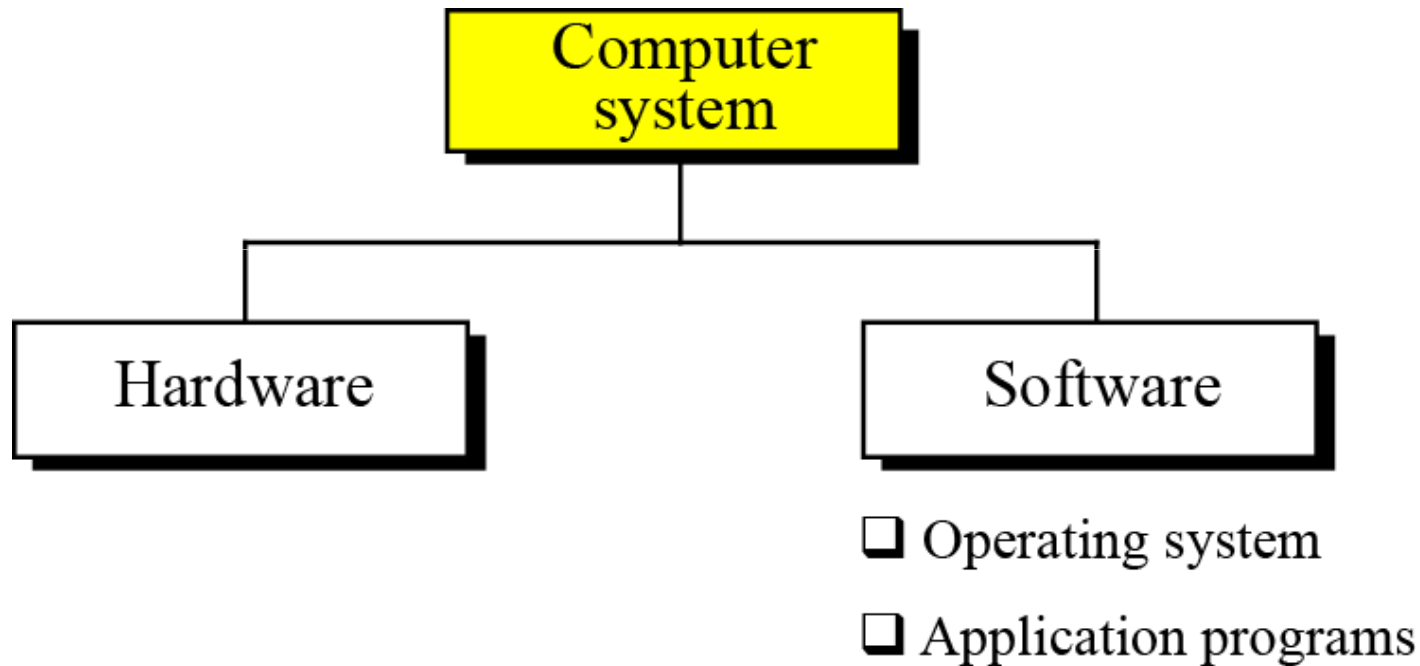
CPIT 201
WEEK 13
LECTURE1

OPERATING SYSTEM

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A computer is a system composed of two major components: hardware and software.

Hardware: Computer hardware is the physical equipment.

Software: Software is the collection of programs that allows the hardware to do its job.

A computer System

An operating system is an interface between the hardware of a computer and the user (programs or humans).

Two major goals of an operating system are:

1. Efficient use of hardware

2.Easy use of resources.

Bootstrap program

- The Operating System is responsible for loading other programs into memory for execution.

- The OS itself is a program that needs to be loaded into the memory and to be run. So how to run OS..

The solution is a two stage process:

A very small section of memory is made of ROM and hold small program called bootstrap program.

When the computer is turned on, the CPU counter is set to the first instruction of this bootstrap program and executes the instruction in this program. When loading is done, the program counter is set to the first instruction of the operating system in RAM.

The bootstrap process:

ROM

Bootstrap program

Operating system

Memory

Disk

CPU

1. Bootstrap program runs
2. Operating system is loaded
3. Operating system runs