



# Ch.2 Operating System Overview

2.1-2.11

## ▼ What is an OS?

a program that controls the execution of application programs, and acts as an interface between applications and computer hardware

## ▼ What are the 3 objectives of an OS?

- convenience
  - an OS makes a computer more convenient to use
- efficiency
  - an OS allows the computer system resources to be used in an efficient manner
- 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 interfering with service

## ▼ In what areas does an OS provide services?

- program development - editors and debuggers (supplied with the OS)
- program execution - the OST handles the scheduling duties for the user
  - instructions and data loaded into main memory
  - IO devices and files initialized
  - resources prepared
- access to IO devices

- controlled access to files
- system access
- error detection and response
- accounting: monitoring performance parameters such as response time
- instruction set architecture (ISA): it defines the repertoire of machine language instructions that a computer can follow
- application binary interface (ABI): it defines a standard for binary portability across programs
- application programming interface (API): it gives a program access to the hardware resources and services available in a system through the user ISA supplemented with high-level language (HLL) library calls





