

## UNIT 1

### AN INTRODUCTION TO OPERATING SYSTEMS

**Application software** performs specific task for the user.

**System software** operates and controls the computer system and provides a platform to run application software.

An **operating system** is a piece of software that manages all the resources of a computer system, both hardware and software, and provides an environment in which the user can execute his/her programs in a convenient and efficient manner by hiding underlying complexity of the hardware and acting as a **resource manager**.

Why OS?

1. What if there is no OS?
  - a. Bulky and complex app. (Hardware interaction code must be in app's code base)
  - b. Resource exploitation by 1 App.
  - c. No memory protection.
2. What is an OS made up of?
  - a. Collection of system software.

An operating system function -

- Access to the computer hardware.
- interface between the user and the computer hardware
- **Resource management (Aka, Arbitration) (memory, device, file, security, process etc)**
- **Hides the underlying complexity of the hardware. (Aka, Abstraction)**
- facilitates execution of application programs **by providing isolation and protection.**



User

Application programs
Operating system
Computer hardware

The operating system provides the means for proper use of the resources in the operation of the computer system.