

# Operating System Structure

## The User Interface

- **Operating systems** provide an **environment** for the **execution of programs**, and **services** to those programs.
- One set of **operating system services** provides **functions** that are helpful to the **user**.
- The **user interface** is the way **users interact with the operating system**.
- There are **two types** of **user interfaces**:
  1. The **command-line interface (CLI)** is a way the **user** can **interact** with the **operating system** through a set of **commands**.
  2. The **graphical user interface (GUI)** is a way the **user** can **interact** with the **operating system** in a **graphical environment**.
- Any operating system **user interface** should allow the user to **perform file-system manipulation**, **execute programs**, and **interact with IO devices**.
- Additionally, the **user interface** should handle **error detection**, **resource allocation**, and **device security** behind the scenes.

