

Week 1 Summary

Operating Systems and Networks

Monsoon 2023

1 Introduction

An *operating system* is a program that acts as an intermediary between a user of a computer and the computer hardware. The purpose of an operating system is to provide an environment in which a user can execute programs in a *qqaconvenient* and *efficient manner*.

1.1 What is an Operating System?

An operating system is an important part of almost every computer system. A computer system can be divided roughly into four components: the **hardware**, the **operating system**, the **applications programs** and the **users**. Whenever you decide to run a program/many programs, what happens under the hood is:

- **The hardware** - the CPU, the memory, and the I/O devices - **provide the basic computing resources**
- **The application programs** - such as compilers, database systems, games, etc - **define the ways in which these resources are used to solve the problems of the users.**
- There might be multiple programs running simultaneously. There can also be multiple users trying to solve different problems.
- The operating system controls and coordinates the use of hardware among the various application programs for the various users.