



Resource Management

- CPU scheduling
- Memory management
- File Management
- I/O Management

Structure

- Main Components
 - Kernel
 - System Programs
 - Application Programs
 - Modes
- User Mode
- Kernel Mode
- Mode Switching
- System Calls
- Traps/interrupts

Computer system organization

- Consists of CPU, Device Controller and a common bus
- Each input output device is connected through device controller

Functions of OS

- Input Output Operations
- File Management
- Protection
- Resource Management
- Error Detection

Introduction to OS

What is OS

- From User's View: OS is something you interact with
- From System's View: It is a resource allocator and a control program



Introduction to CS

Security

- Controls access by processor to other resources
- Protects against unauthorized access
- Uses authentication, encryption and firewalls

Kernel data structures

- Lists
- Trees
- Hash Maps
- Bitmaps
- Tables

Computing Environments

- Traditional Computing
- Mobile Computing
- Distributed Systems
- Client-Server Model
- Peer-to-Peer (P2P)
- Cloud Computing

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