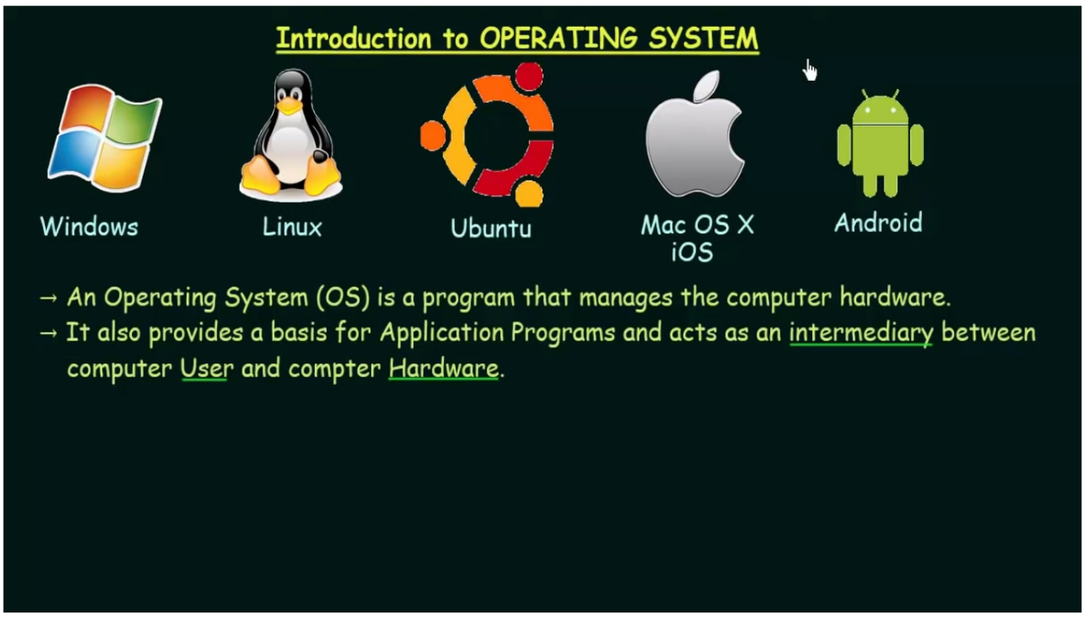
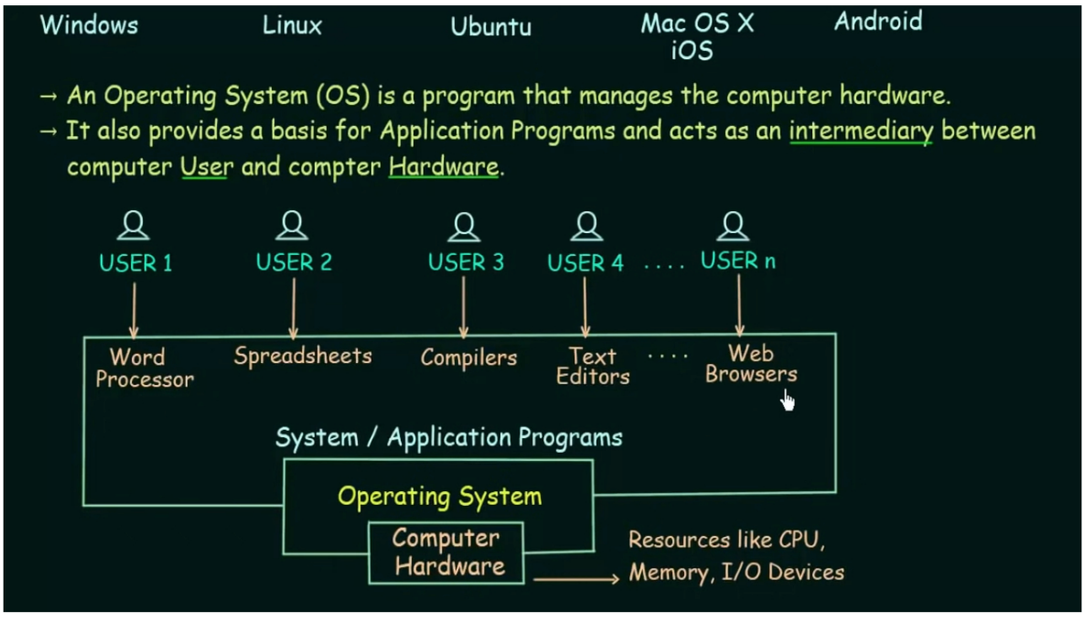
Introduction to Operating Systems





An operating system is the most important software that runs on a computer. It manages the computer's memory and processes, as well as all of its software and hardware. It also allows you to communicate with the computer without knowing how to speak the computer's language.

For hardware functions such as input and output and memory allocation, the operating system acts as an intermediary between programs and the computer hardware,[1][2] although the application code is usually executed directly by the hardware and frequently makes system calls to an OS function or is interrupted by it. Operating systems are found on many devices that contain a computer – from cellular phones and video game consoles to web servers and supercomputers.

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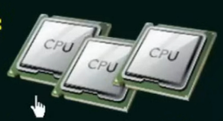
Computer System Architecture

1. Single Processor Systems:

- One main CPU capable of executing a general purpose instruction set including instructions from user processes.
- Other special purpose processors are also present which perform device specific tasks

2. Multiprocessor Systems:



- Also known as parallel systems or tightly coupled systems.
- Has two or more processors in close communication, sharing the computer bus and sometimes the clock, memory, and peripheral devices

Advantages:

- Increased throughput
- Economy of scale
- Increased reliability

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