

Sub-Topics

- ✓ Definition*
- ✓ Functions*
- Interface*
- ✓ Booting
- ✓ Buffer
- ✓ Interrupts*
- ✓ Spooling
- Polling

Definition: It is a master control program (like Android, iOS, DOS, Linux, Windows, Mac OS etc.) that runs automatically when a computer is switched on, and remains in the background when system is running.

Computer System is a most complicated hardware system where there are several HW devices working together. O/S helps these HW devices to coordinate & work like a single unit.

Operating System hides (makes transparent) the complexity of HW from user makes it easy to be used.

Functions of an O/S:

✓ Booting (Starting of Computer/Cellphone/Tab)

- Memory management.

✓ Storage management.

- Security (passwords, user accounts, encryption etc.)

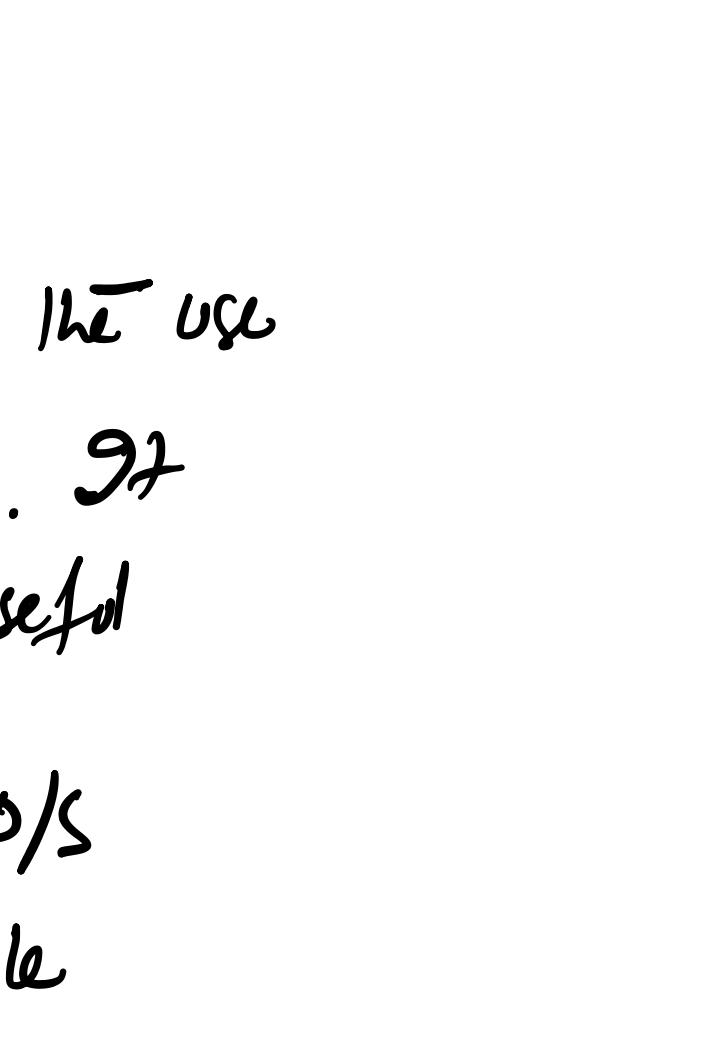
- Communications.

- Input & output devices management. Device Drivers.

✓ Interrupts management

- User Interface.

etc.



Storage Management:

-
- Storage management is done by the O/S with the use of a file management system like FAT, NTFS. It is means by which a disk can be made useful and useable for the user.
 - File System is a technique adopted by the O/S to manage files over the disk. For example File Allocation Table (FAT), New technology File System (NTFS).

Simultaneous Peripheral Operations On Line.

SPPOOLING.

Peripherals:

Peripheral devices are any of the different devices used to enter information and instructions into a computer for storage or processing and to deliver processed data to users back. These are mostly input and output devices like keyboard, mouse, monitor, mic, speaker and printer etc. Peripheral devices only work when they are connected to the computer (online).

Buffers: Data Buffer (Buffer) is temporary (physical) memory used by O/S when the rate of data retrieval and the rate of data processing is variable/different.

Use of buffer eliminates data loss or device lagging. For example when the data is being printed over slow printer or data streaming is played back continuously even when the data download/retrieval is slower than playback speed.

Interrupts: Interrupt is an electronic (digital) signal generated by the hardware or software to gain microprocessor's attention and time to execute their required jobs.

There are different types of interrupts like software interrupt, hardware interrupt & trap.

