

Operating system structure!

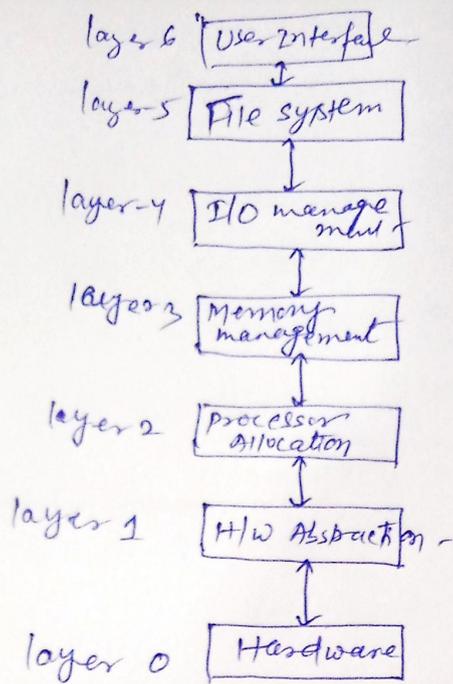
The structure of an operating system refers to how its major components are organized, how they interact, and how services are provided to user applications and hardware. Since the operating system is such a complex structure, it should be created with utmost care so it can be used and modified easily.

An easy way to do this is to create the operating system in parts. Each of these parts should be well defined with clear inputs, outputs and functions.

Following are popular implementations of operating system structure.

- ① Layered structure
- ② Client Kernel structure
- ③ virtual machine
- ④ client-server structure

① Layered structure! It is one of the classic way to organize an operating system. It divides the entire OS into multiple horizontal layers, where each layer provides services and can only use functions from the layer immediately below it. This creates a clean hierarchy, with hardware at the bottom and the user interface at the top.



layered os structure

The lower layer provide services to upper layer & closer to it. lower layer handle more primitive hardware-related operations.

- How it work
- A user (top layer) wants to read a file it calls the file system layer.
 - File system layer ask the I/O management layer.
 - I/O layer & talks to device layer
 - Device drivers eventually interact with hardware.
 - Replies flow back upward through the same path.

Example: - THE multiprogramming system (1960s) **DIJKSTRA**
 :- macOS.