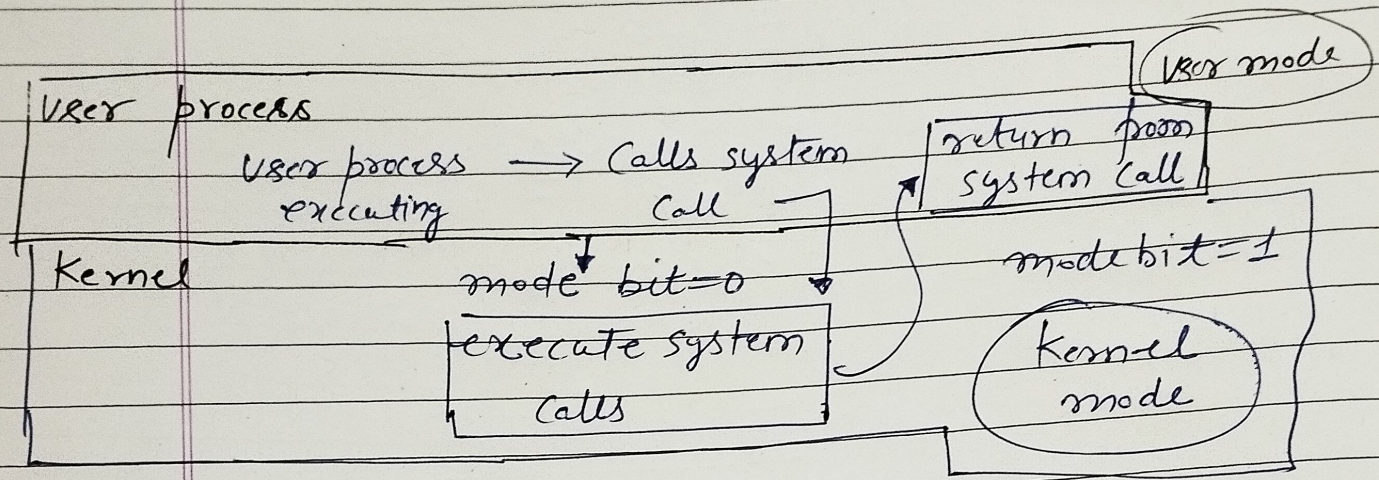
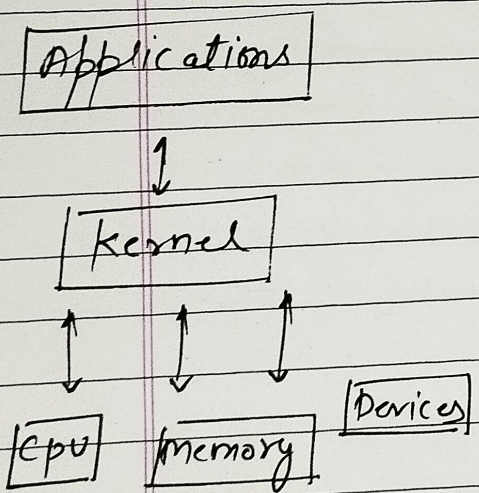
Q-1 What is Kernel?

It is a computer program that is core of O.S, with complete control over everything in system.



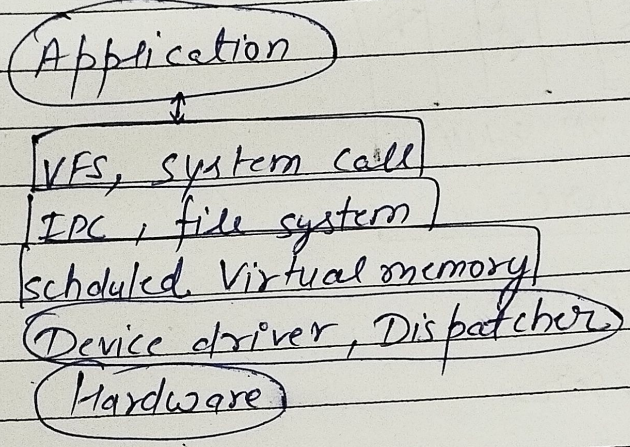


mode bit = 1 for user mode
mode bit = 0 for Kernel mode

1) Monolithic & ~~Microkernel~~ :

* Monolithic Kernel
  - entire os → Kernel
    - high priviledged
    - high perfomance

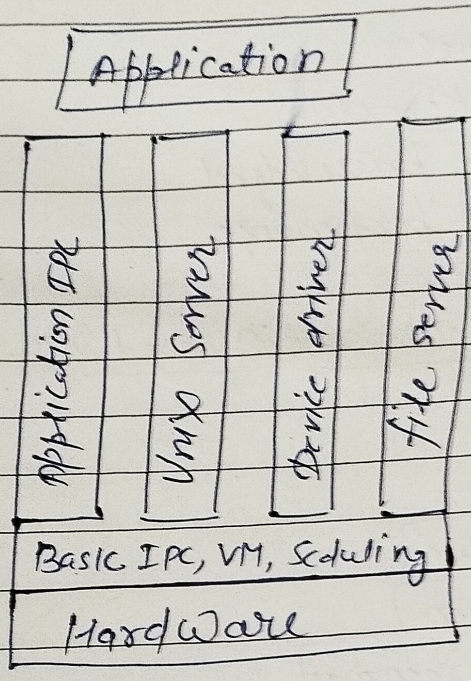
Architechture of ~~Monolithic~~ based os :



- Monolithic layer than Microkernel.
- fast { user, Kernel same address space }
- Hard to extend
- Some exception Os Crash
  Linux, BSD, windows (95, 98 etc), Dos etc.

- provides CPU scheduling, memory Management file management through system calls.

Microkernel



separate
- Kernel
- User

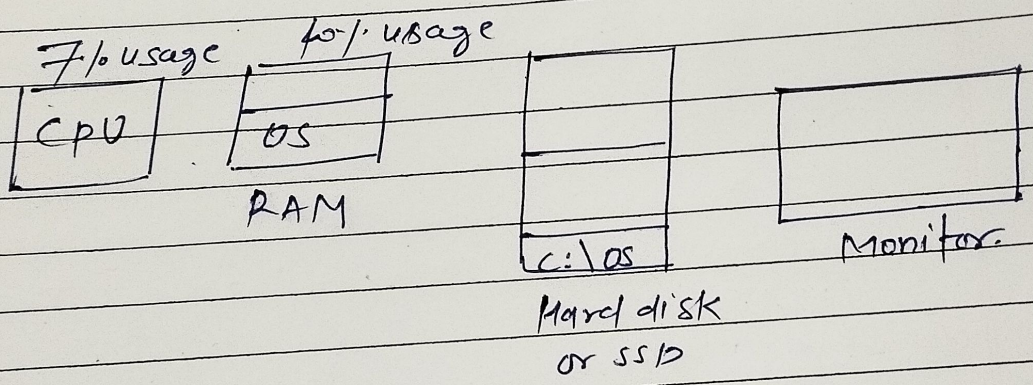
smaller in size
slow execution (switching)

crash effect on working Microkernel

Booting:

→ Power on
→ CPU will move to BIOS (Basic input output system) in ROM
→ BIOS will be executed (POST) → Power On Self Test
POST → Checking BIOS chip
Checking CMOS - RAM
initializing CPU
Checking others peripherals

→ Bios will load MBR to RAM
→ MBR will load Bootloader to RAM



Types of Booting:

(i) Hard Booting (Cold booting)
↳ Power on

(ii) Soft booting (Warm Booting)
↳ Restart / ctrl + Alt + Del