⇒ what is an operating System?
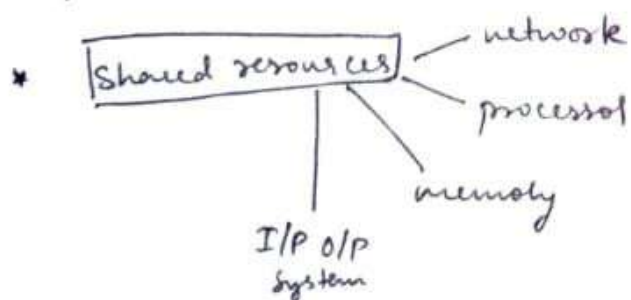
Mobile	Laptop / Desktop

Mobile
- Android
- IOS

Laptop / Desktop
- Windows
- Linux
- mac

* operating System is a __boss__ of computer

* All process } will be run only if the operating System
  All device   }   approve's

* operating System is a core of the system

System process
OS
Boss
Services

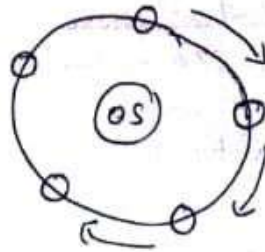Drivers

Input / output

Applications
Browser, Apps
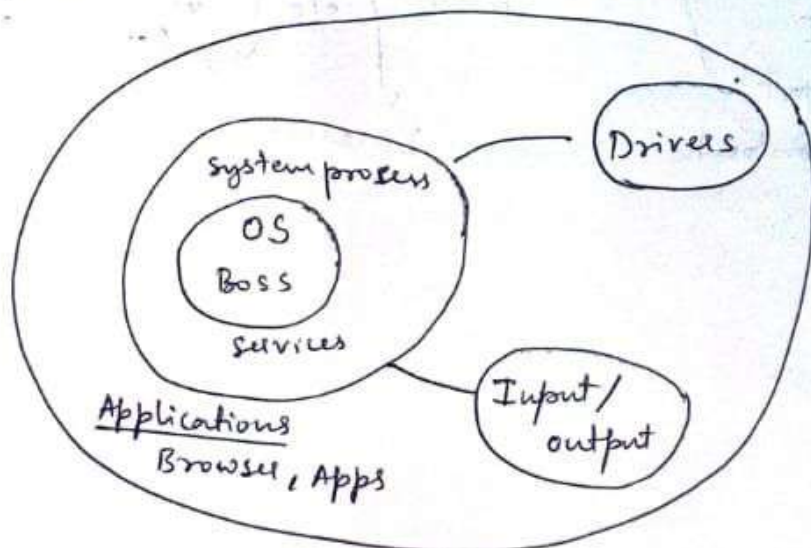
* operating System regulates the traffic
* If any process misbehaves OS will terminate ⌐& remove from the memory
* permission control is also taken care by operating System

* | Shared resources | ─ network
                      ─ processor
                      ─ memory
                      │
                  I/P O/P
                  System

Their are different Algorithm

1. Round Robin

without an operating system if you want to use your PC
it fells very difficult.

Because without OS your should write the code for
everything like —— to run the process
                       to alocate the resources
                            etc

the 1st building block

① → Boot loader.

[when you ON the system BIOS will check every
component of every part are working correctly]

* when you ON the system after 2 to 3 sec you can
hear the bleep sound that means everything is correctly
working

② 1st sector (Boot loader program [small program hardly
                              less than 512 bytes] this should
                              load to the RAM and Run)

* Boot loader contains the information about the OS files
like where they present in harddisk

③ Command line Interporater.

linux ⎱ open source OS's   ∴ you can find the
Android ⎰   source code on the
                                     Internet.

```
┌─────────────┐
│ Application │
└─────────────┘
┌───────────────────────┐
│  Process Management    │
└───────────────────────┘
┌──────────┬──────────┬──────────┐
│  File    │ Network  │ Security │
│  System  │          │          │
└──────────┴──────────┴──────────┘
┌───────────────────────┐
│  Operating  System    │
└───────────────────────┘
```

Application ⟶ File System ⟶ Security ⎱ ┌──────┐
                                        ⎰ │ HDD │
     US ⟍   └──────┘
        ⟍ ⟶ Drivers
      HDD

Operating System API

Public API   Private API

// Operating System

photo   Browser   file explorer   paint

                Applications
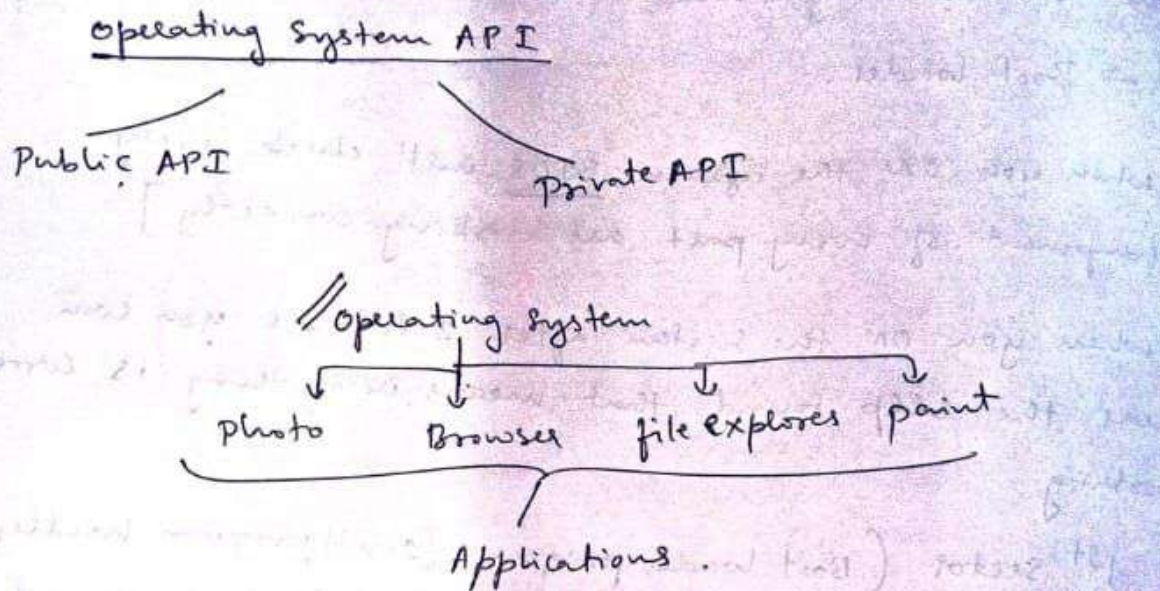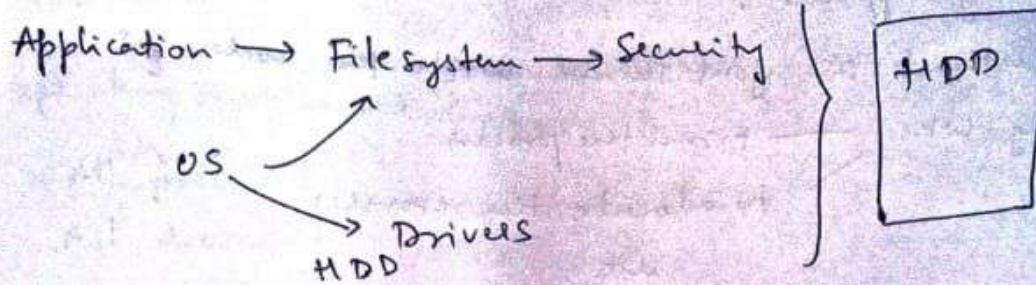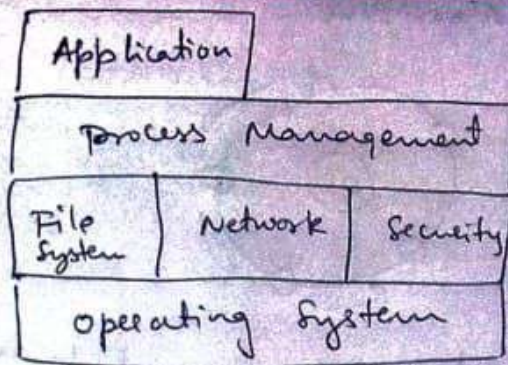
* **Task Know your System**

Task bar [right click] ⟶ Task Manager ⟶ processes

                                    { program under execution }

• Apps { contains UI }

• Background process { not contain UI }

⟶ performance ⟶ CPU
                  memory   **thread**
                  Disk   * It is a single
                  Ethernet   sequence stream
                  ⋮   within a process

Device Manager

List of Input & output System that Are Connected to your System.

Q Type a name, publisher, or PID to search

Processes

🗔 Run new task

Name	Status	12% CPU	69% Memory	3% Disk	0% Network	
Apps (2)						
> 🔴 Google Chrome (14)	🌿	0.1%	448.7 MB	0.1 MB/s	0.1 Mbps	
> 📊 Task Manager		1.0%	58.2 MB	0.1 MB/s	0 Mbps	
Background processes (76)						
> 🖼 AMD Crash Defender Service		0%	0.3 MB	0 MB/s	0 Mbps	
🔴 AMD External Events Client M...		0%	1.2 MB	0 MB/s	0 Mbps	
> 🖼 AMD External Events Service ...		0%	0.1 MB	0 MB/s	0 Mbps	
> 🔴 AMD Software (4)		0%	14.7 MB	0 MB/s	0 Mbps	
> 🖼 Antimalware Core Service		0.1%	3.0 MB	0 MB/s	0 Mbps	
> 🖼 Antimalware Service Executable		0.6%	121.8 MB	0 MB/s	0 Mbps	
🖼 Application Frame Host		0%	1.3 MB	0 MB/s	0 Mbps	
🖼 COM Surrogate		0%	0.7 MB	0 MB/s	0 Mbps	
🖼 CTF Loader		0%	2.6 MB	0 MB/s	0 Mbps	
> 🖼 DDVDataCollector		0%	7.5 MB	0 MB/s	0 Mbps	
🖼 Dell Analytics		0%	14.6 MB	0 MB/s	0 Mbps	
🖼 Dell Data Manager		0%	18.5 MB	0 MB/s	0 Mbps	
> 🖼 Dell Data Vault Data Collector ...		0%	0.5 MB	0 MB/s	0 Mbps	
> 🖼 Dell Data Vault Rules Processor		0%	1.5 MB	0 MB/s	0 Mbps	

Task Manager

☰

🖥 Processes

📈 Performance

🕙 App history

⚡ Startup apps

👥 Users

☰ Details

🧩 Services

⚙ Settings

Task Manager

☰

▱ Processes

⊡ Performance

↺ App history

⤳ Startup apps

⚇ Users

☰ Details

✿ Services

⊞ Run new task   •••

	CPU		AMD Ryzen 5 5500U with Radeon Graphics

CPU
9% 1.65 GHz

Memory
5.2/7.4 GB (70%)

Disk 0 (C:)
SSD (NVMe)
1%

Wi-Fi
Wi-Fi
S: 0 R: 0 Kbps

GPU 0
AMD Radeon(TM) Gra...
1% (40 °C)

CPU

% Utilization   100%

CPU activity

60 seconds   0

Utilization	Speed		Base speed:	2.10 GHz
9%	**1.65 GHz**		Sockets:	1
			Cores:	6
Processes	Threads	Handles	Logical processors:	12
230	**3605**	**110720**	Virtualization:	Enabled
			L1 cache:	384 KB
Up time			L2 cache:	3.0 MB
0:01:47:36			L3 cache:	8.0 MB

Settings

Device Manager

File   Action   View   Help

- **ANANYA**
  - Audio inputs and outputs
  - Audio Processing Objects (APOs)
  - Batteries
  - Bluetooth
  - Cameras
  - Computer
  - DellInstrumentation
  - Disk drives
  - Display adapters
  - Firmware
  - Human Interface Devices
  - IDE ATA/ATAPI controllers
  - Keyboards
  - Mice and other pointing devices
  - Monitors
  - Network adapters
  - Print queues
  - Processors
  - Security devices
  - Software components
  - Software devices
  - Sound, video and game controllers
  - Storage controllers
  - System devices
  - Universal Serial Bus controllers