

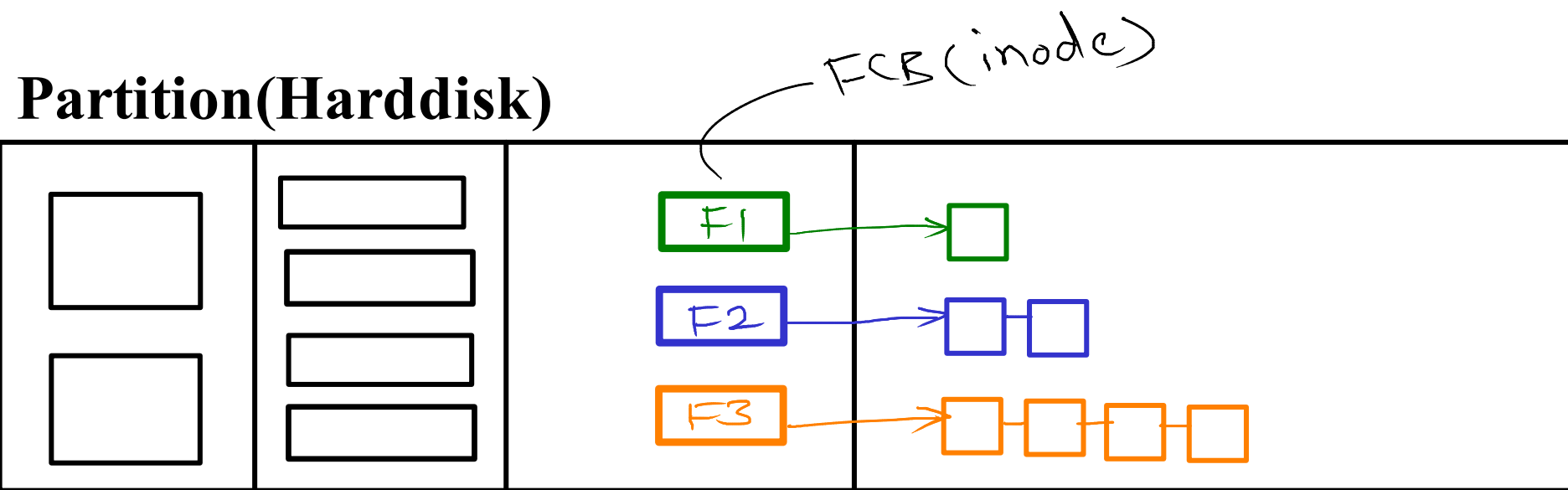
# **File**

**File - collection of data**

<b>File</b>	<b>-</b>	<b>data</b>	<b>+</b>	<b>Metadata</b>
		<b>(Content)</b>		<b>(information about file)</b>
		<b>(Data Blocks)</b>		<b>(File Control Block)(Inode)</b>
				<b>- name</b>
				<b>- type</b>
				<b>- size</b>
				<b>- permissions (rwx)</b>
				<b>user/owner, group, others</b>
				<b>- Link count</b>
				<b>- timestamp</b>
				<b>create, access, modify</b>
				<b>- user/owner, group</b>
				<b>- list of data blocks</b>

## **File system**

- Organizing files on partition(Storage devices)**
- NTFS, FAT, EXT4, CDFS, HFS, ZFS.....**



Boot  
sector/  
Boot  
block  
↓

info required  
for booting  
1) Boot loader  
2) Boot strap  
program

Volume  
Control  
block/  
super  
block

↳ info about volume (partition)

- label
- size
- filled size
- Empty size

Free space management

- bit vector
- linked list
- indexed
- grouping

Data  
block

File Allocation Mechanisms

- Contiguous
- Linked
- Indexed

# File System Architecture

