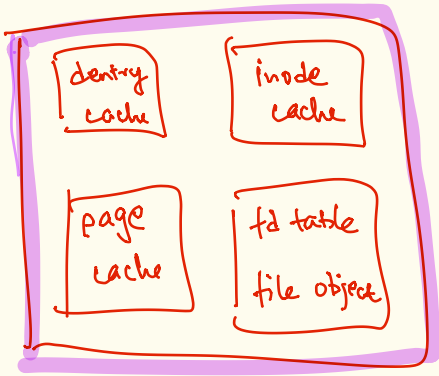
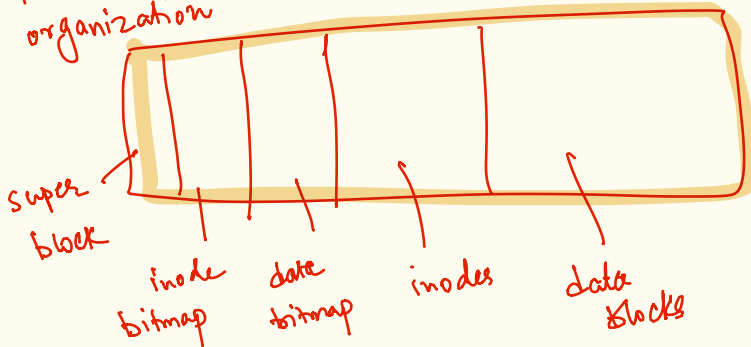


Lecture 25

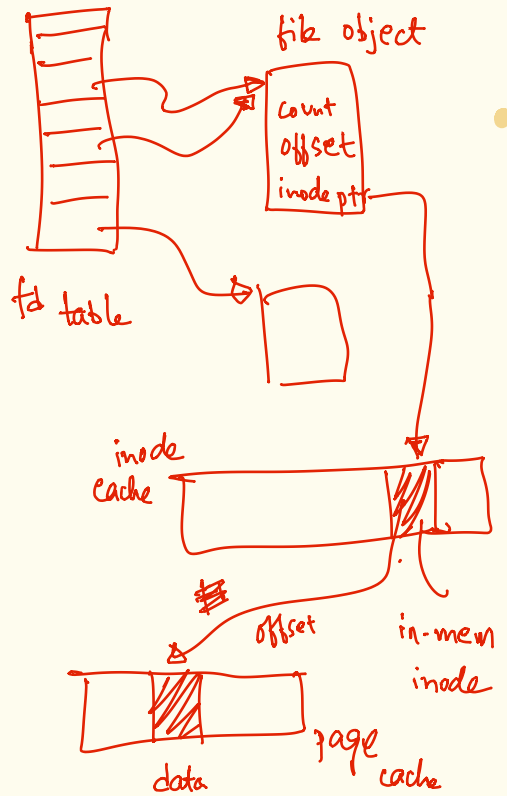
FS in memory objects



FS on disk organization



per-process FS state



(*)

inode

- num
- size
- permissions
- ref count / n links
- datablocks (set)

(i) DIRECT mapping.

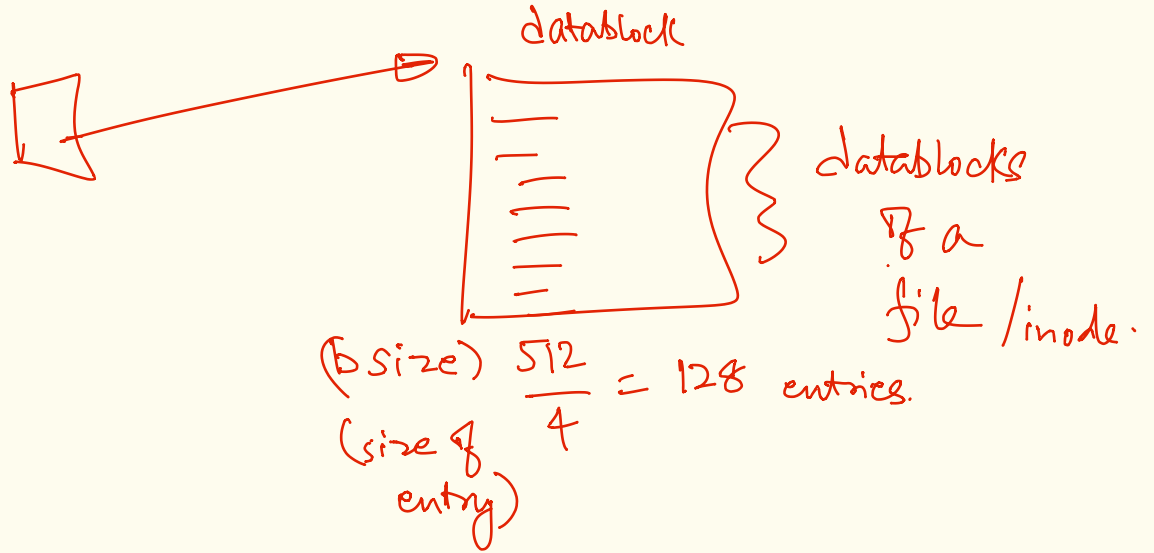
list of datablocks (first of which is offset 0 & so on).

xv6 datablock [] ;

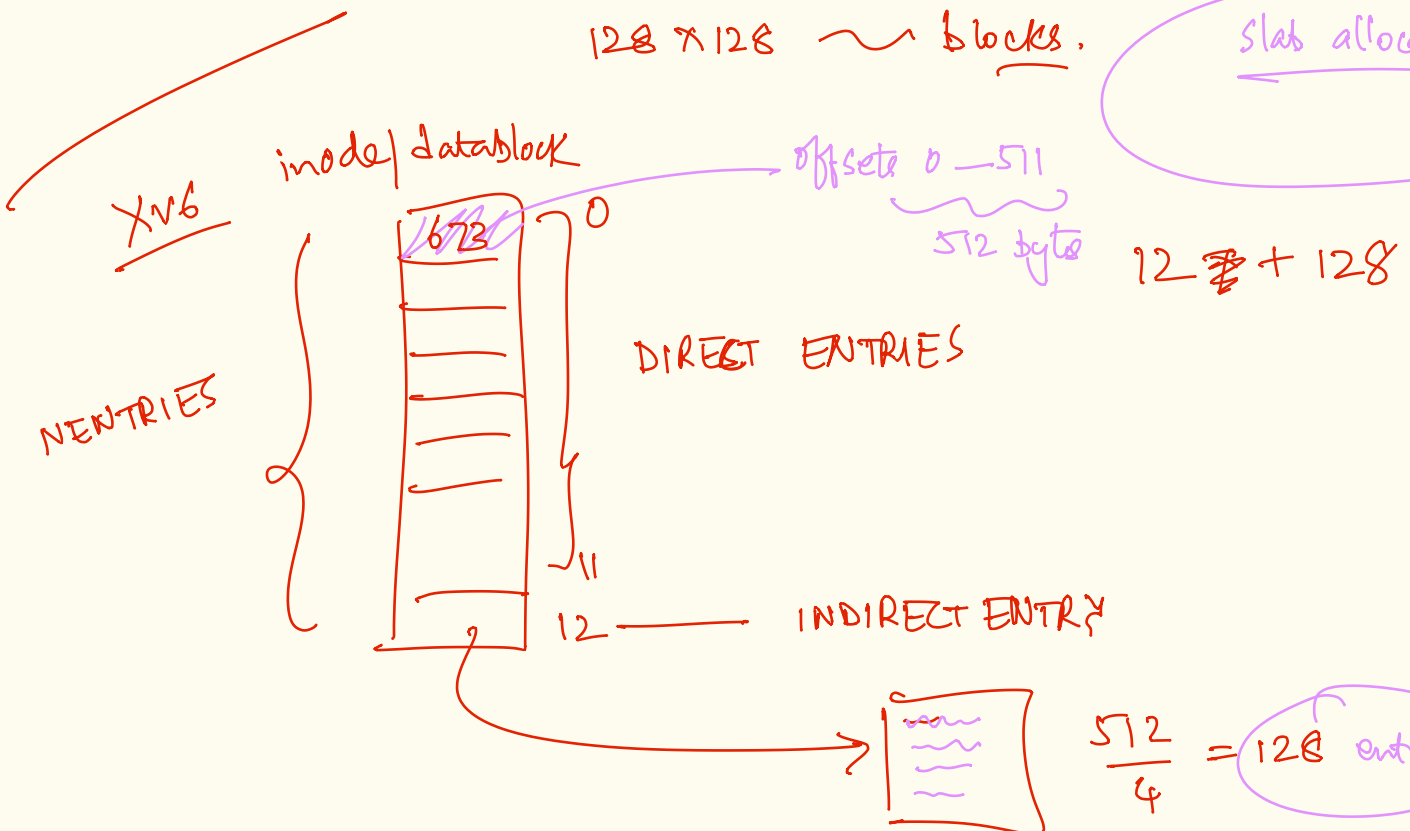
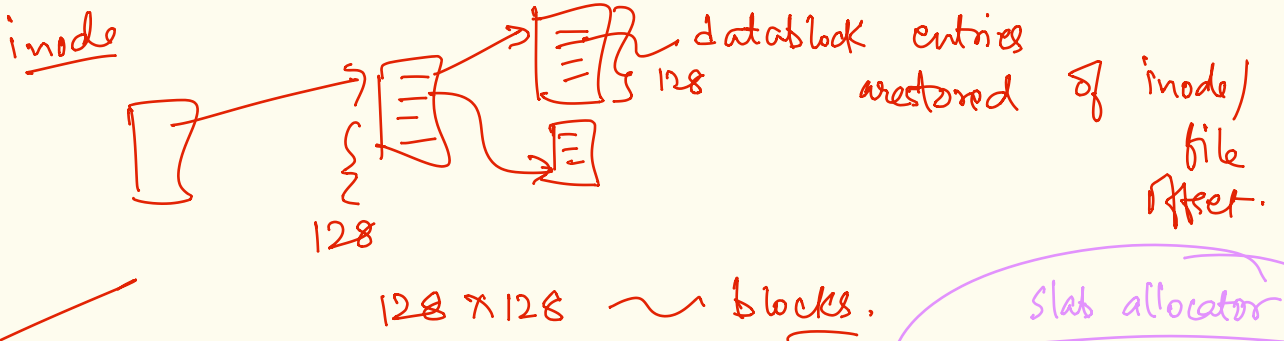
(ii) indirect mapping.

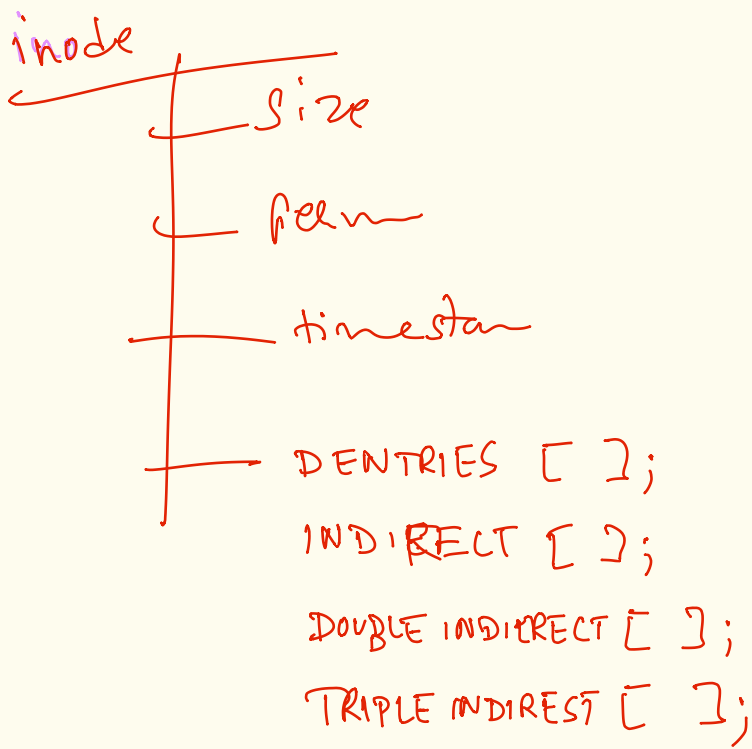
+ store the address of a block that store data block entries.

inode



(iii) double-indirect





(2) device → partition & mount point
file system.

major number

minor number



mount	device	mount pt.
mnt		<u>fs</u>
		/mnt
		/mnt/sda1
		/mnt/sda2

cp /home/user/yohoo.txt

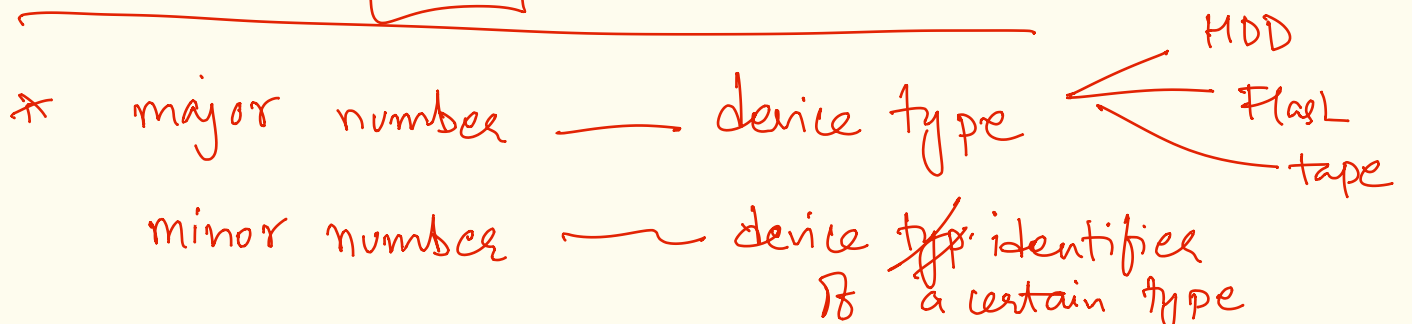
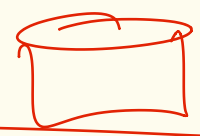
/data

1

/data

ext2

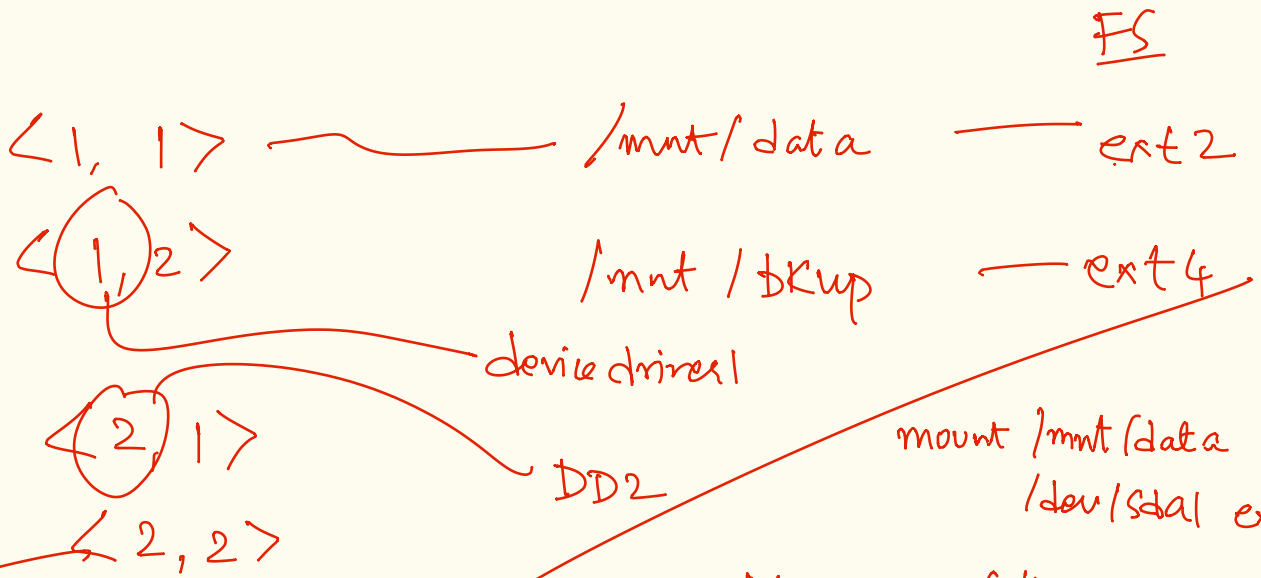
ext4



$\langle \text{major num}, \text{minor num} \rangle \Rightarrow$ mount pt. in the directory structure
 - file system.

device

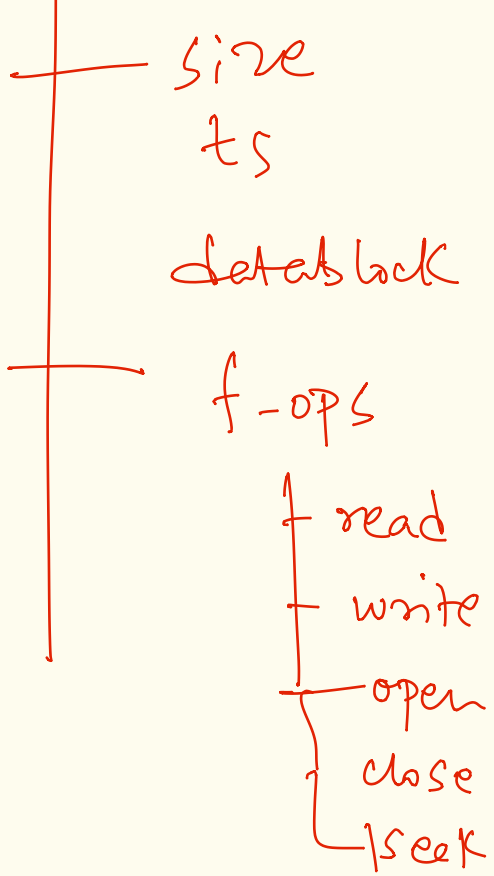
device drivers for block IO.



```

fd1 = open("/mnt/data/a.txt");
read(fd1, buf, 10);
fd2 = open("/mnt/backup/b.txt");
write(fd2, buf, 10);
  
```

inode



// file operations

