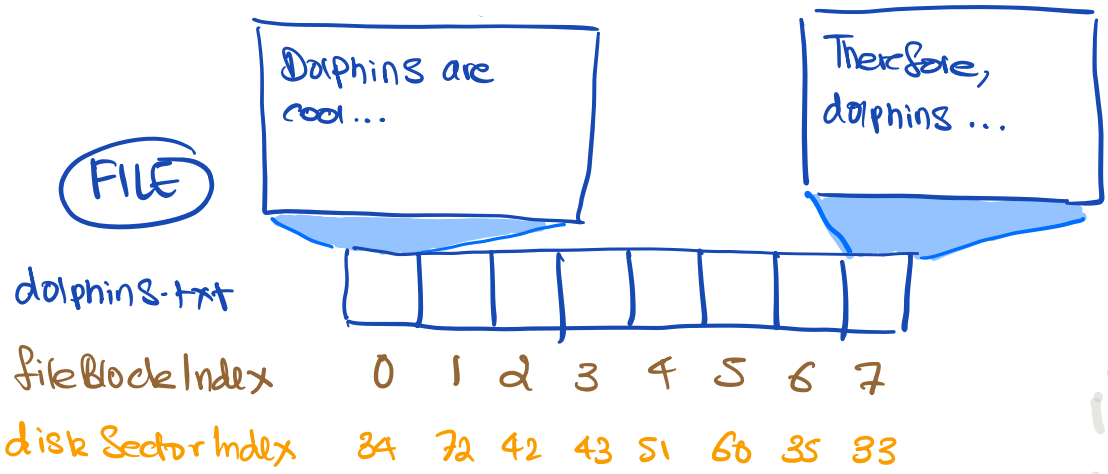
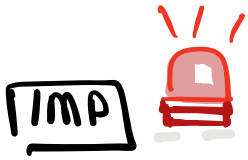
Niveditha Iyer

SMALL MODE





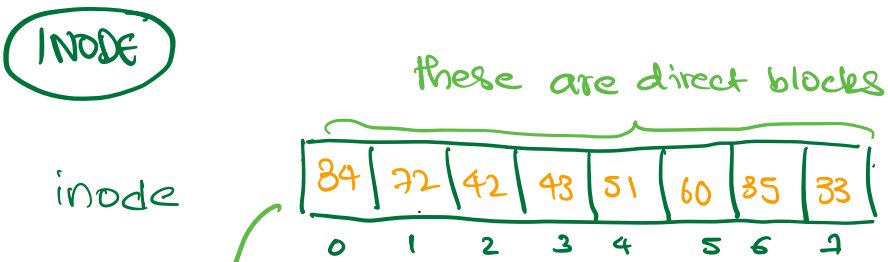
Here we assume

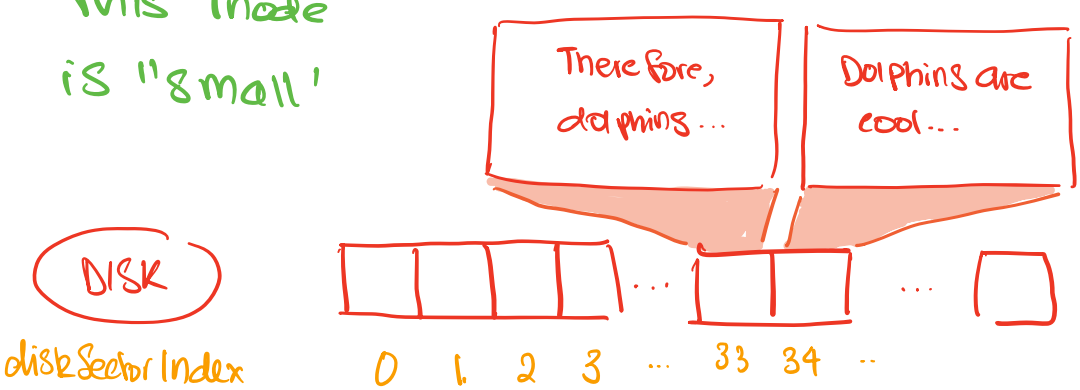
fileblock size = disk sector size

↘ ↙

512 B

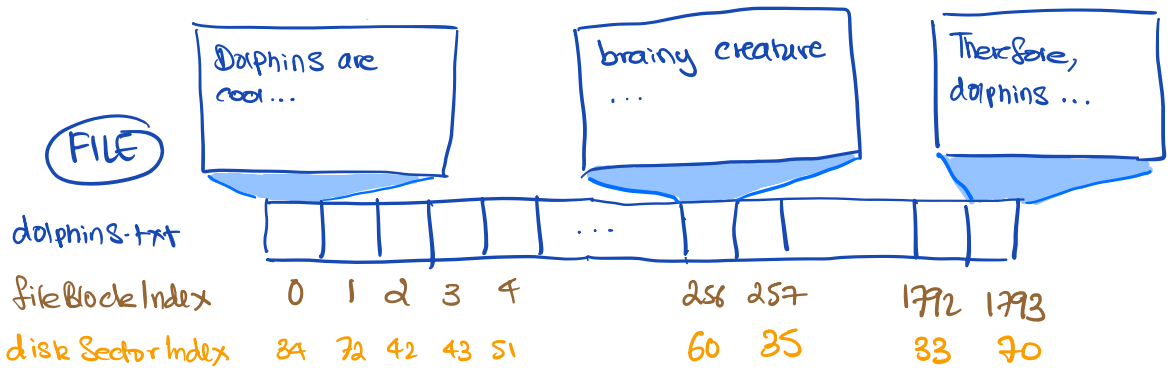
inode size = 32B





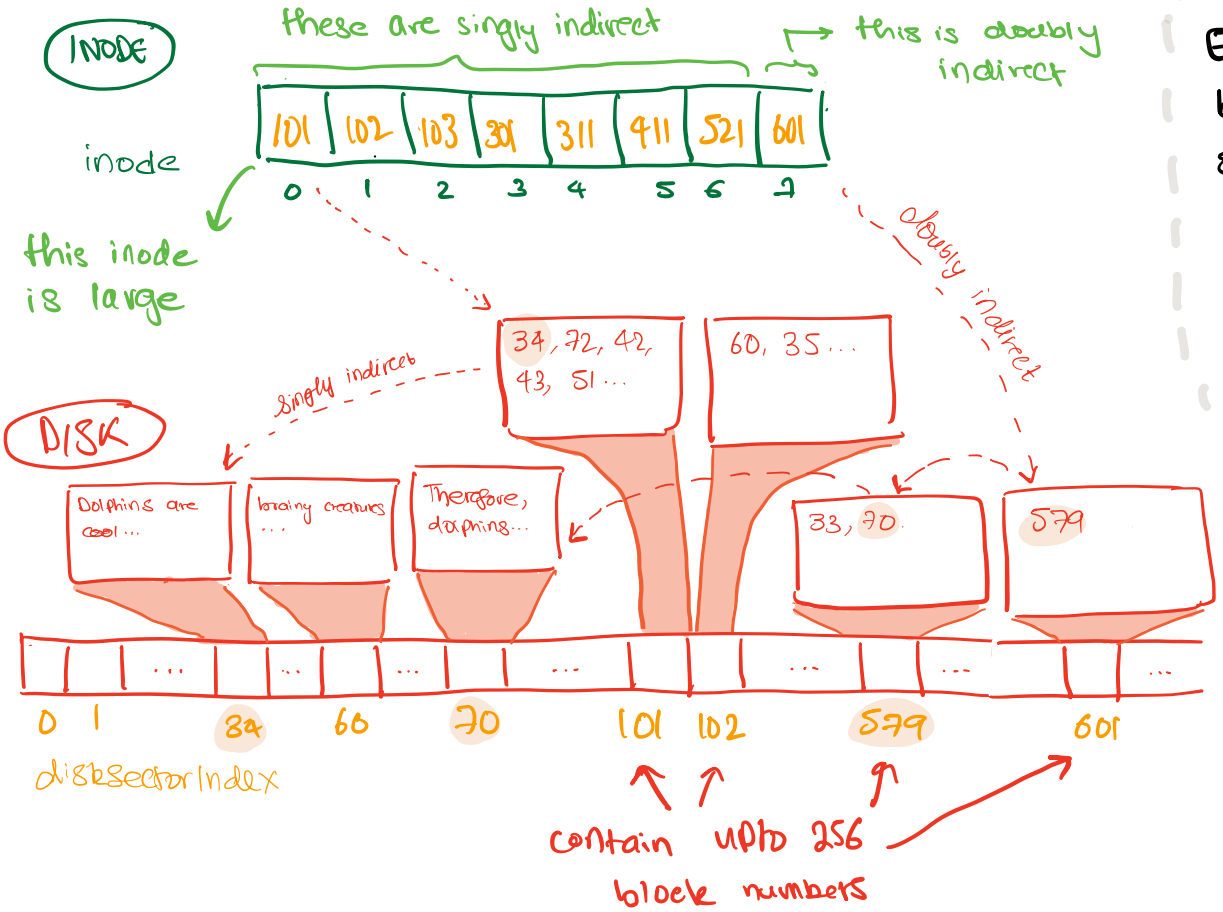
If we want to retrieve fileBlockIndex 4 of dolphins.txt, we look at inode[4] which takes us to diskSectorIndex 51.

LARGE MODE



IMP

Each indirect block can store $\frac{512}{2} = 256$ block numbers.



If we want to retrieve fileBlockIndex 1793 of dolphins.txt, we look at inode [7] which takes us to diskSetorIndex 601 which leads us to diskSectorIndex 579 which reads us to diskSectorIndex 70 which contains the content "Therefore, dolphins..."

INODES

Suppose we have the following files & inodes

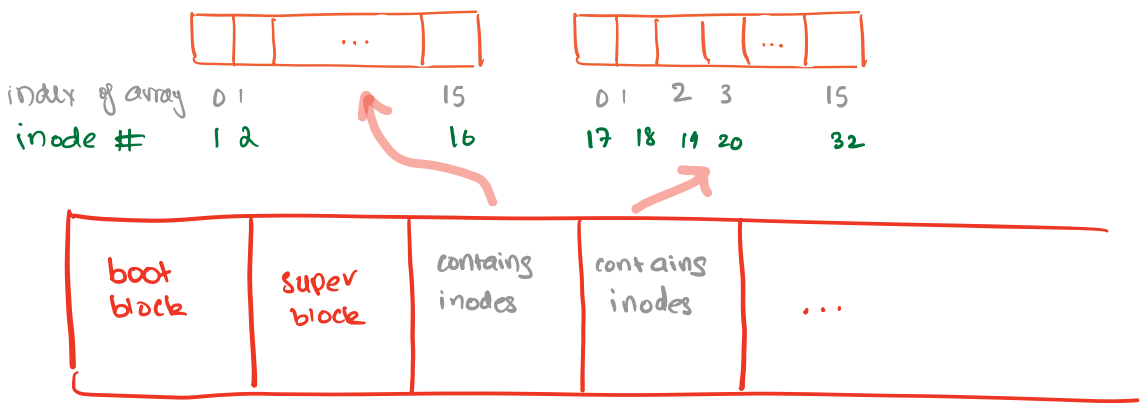
dolphins.txt	1
marine_life/	16
jellies.png	17
fish.mp3	20

IMP

Inode numbers start at 1

DISK

each block contains $\frac{512}{32} = 16$ inodes



diskSector Index 0 1 2 3

skip 2 sectors

If we want to read inode of fish.mp3 we

do $(20 - 1) / 16 + 2 \rightarrow$ diskSectorIndex $= 3$

and $(20 - 1) \% 16 \rightarrow$ index of array $= 3$

make 0 index

inodes per block

fin.

Yay!! You are a Unix V6 pro now