

FILE SYSTEMS

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THE BASICS

- Some Blocks at the start of the disc store all the unused addresses of blocks
- File-blocks: Store Metadata of a File and the addresses of all its data-blocks
- Data-blocks: Simply stores data of a file (text, etc..)
- Directory-blocks: Store Metadata of a directory, addresses of all its file-blocks and other directory blocks within it

CREATING A FILE

- Allocate a file-block and save all metadata necessary.
- Take a data-block and store its address in the file-block
- All used addresses must be removed from the unused address list

DELETING A FILE

- In General, deleting a file means simply giving it back to unused memory
- When deleting a file- or directory-block, also delete all blocks within it
- When deleting a block, set a null terminator at its beginning so that future data won't be corrupted

INCREASING FILE SIZE

- When file size increases beyond its available blocks, give the file another data-block to write in and add it to the files block-list

DECREASING FILE SIZE

- When decreasing a file in size, move its null terminator to the left
- When a file gets so small that it has unnecessary blocks, give them back to unused memory

READING A FILE SEQUENTIALLY

- The list of data blocks is saved in the file block
- Read every data-block of a file one after the other

ACCESS VIA SEEK()

- Since we know the size of a single block, we know where to go
- Specified size / block-size = block index, rest = position in the specified block