Basic File operations

Unix

- `create(name)`
- `open(name, how)`
- `read(fd, buf, len)`
- `write(fd, buf, len)`
- `sync(fd)`
- `seek(fd, pos)`
- `close(fd)`
- `unlink(name)`

Windows

- `CreateFile(name, CREATE)`
- `CreateFile(name, OPEN)`
- `ReadFile(handle, …)`
- `WriteFile(handle, …)`
- `FlushFileBuffers(handle, …)`
- `SetFilePointer(handle, …)`
- `CloseHandle(handle, …)`
- `DeleteFile(name)`
- `CopyFile(name)`
- `MoveFile(name)`

How to Track File's Data

Disk management

- Need to keep track of where file contents are on disk
- Must be able to use this to map byte offset to disk block
- Structure tracking a file's blocks is called an index node or **inode**
- inodes must be stored on disk, too

Things to keep in mind while designing file structure

- Most files are small
- Much of the disk is allocated to large files
- Many of the I/O operations are made to large files
- Want good sequential and good random access (what do these require?)