

## Quiz 3: File Systems (10 points), 10 minutes (Afternoon section)

Consider a system call: `int fd = open("/foo/bar/beers.txt", O_RDONLY)` where `RDONLY` means read-only. Assume the file "beers.txt" already exists in the bar directory.

Describe the steps that file system takes to implement the call, including reading/writing/updating inodes, content blocks, bitmaps, and the file-open table.

1. Read the inode of root to get the position of root data.
2. Read the data of root to get foo's inumber.
3. Read the inode of foo to get the position of foo data.
4. Read the data of foo to get bar's inumber.
5. Read the inode of bar to get the position of bar data.
6. Read the data of bar to get beer.txt's inumber.
7. Read the inode of beer.txt for permission check.

This process will also add an entry of beer.txt to the file-open table and initialize its offset and inumber.