# Naming Magic

**Bootstrapping**

Root directory always inode #2 (0 and 1 historically reserved)

**Special names**

- Root directory : "/"

- Current directory : "."

- Parent directory : ".."

**Some special names are provided by shell, not FS**

- User's home directory : "~"

- Globing : "foo.*" (expands to all files starting "foo.")

**Using the given names, only need two operations to navigate the entire name space**

- cd name : move into (change context to) directory name

- ls : enumerate all names in current directory (context)

# Unix inodes and path search

**Unix inodes are not directories**

- Inodes describe where on the disk the blocks for a file are placed

- Directories are files, so inodes also describe where the blocks for directories are placed on the disk

**Directory entries map file names to inodes**

1. To open "/one", use Master Block to find inode for "/" on disk

2. Open "/", look for entry for "one"

3. This entry gives the disk block number for the inode for "one"

4. Read the inode for "one" into memory

5. The inode says where first data block is on disk

6. Read that block into memory to access the data in the file