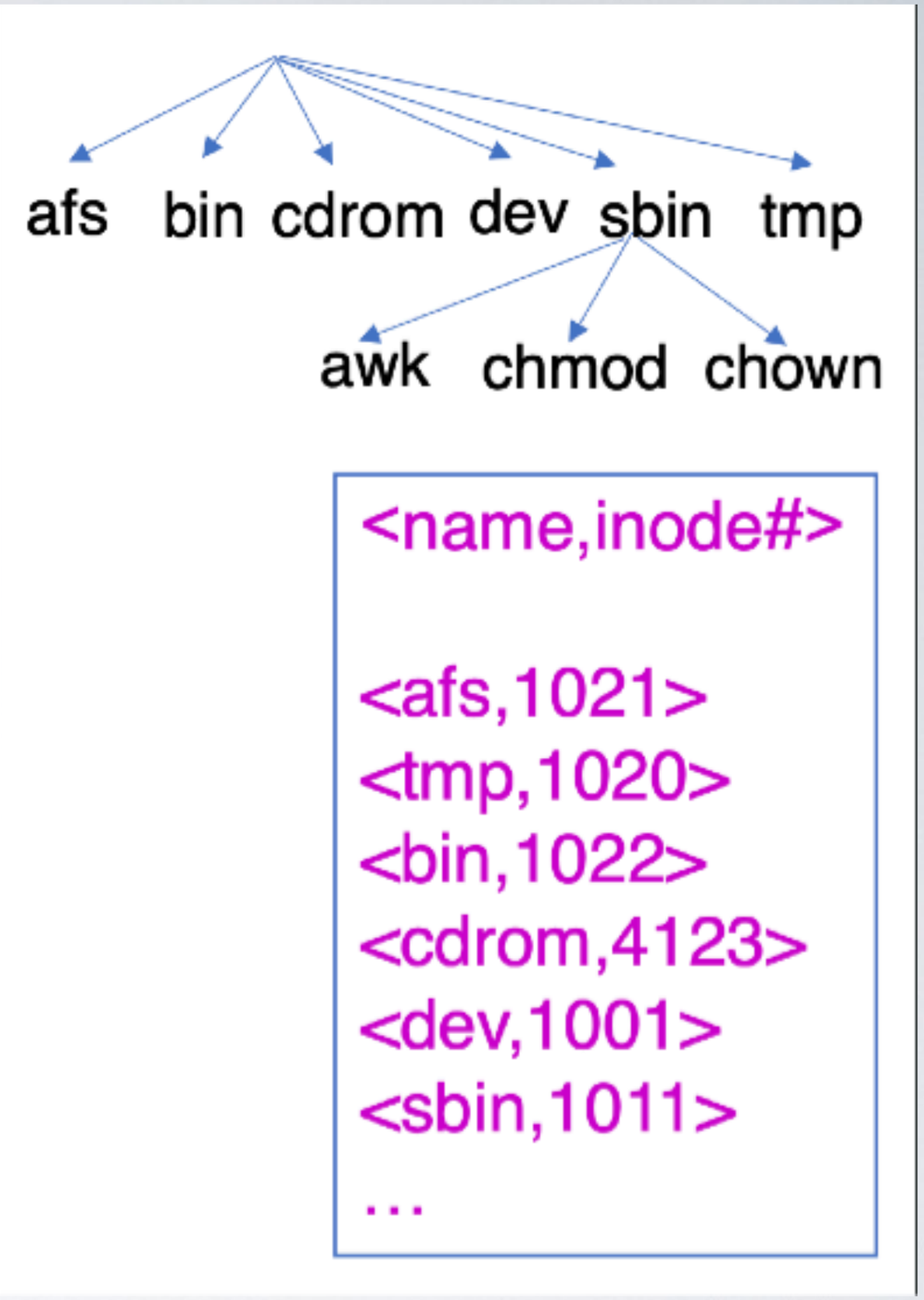
Hierarchical Directory



➡ Used since CTSS (1960s)
Unix picked up and used really nicely

Directories stored on disk just like regular files

- Special inode type byte set to directory
- User's can read just like any other file
- Only special syscalls can write
- Inodes at fixed disk location
- File pointed to by the index may be another directory
- Makes FS into hierarchical tree

✓ Simple, plus speeding up file ops speeds up dir ops!

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)