CS241 #31 – working with files 3

How do I find out if an inode is a regular file or directory or something else?

Problem: How do I recurse into subdirectories? (+ Fix any errors you notice)

**void** **dirlist**(**char**\*path) {  
   
 **struct** dirent\* dp;  
 DIR\* dirp = **opendir**(path);  
  
 **while** ((dp = **readdir**(dirp)) != **NULL**) {

**char** newpath[**strlen**(path) + **strlen**(dp->d\_name) + 1];

**sprintf**(newpath,"**%s**/**%s**", newpath, dp->d\_name);

**printf**("**%s%s** \n", dp->d\_name);

**dirlist**(newpath);  
 }  
}  
  
**int** **main**(**int** argc, **char**\*\*argv) { **dirlist**(argv[1]);**return** 0; }

**> Symbolic links?**

**How do they work? How do I make one?**

readlink

lstat() vs stat()

**> Symbolic vs Hard links showdown**

advantages? disadvantages?

Riddle: When you execute this file you want it to execute as the owner of the file.

int main() { if( geteuid() != getuid() ) puts("try again"); … }

Why would I want to set a directory's sticky bit? Which directory will have the sticky bit set?

> **Why do shell programs start with**

#!/usr/bin/env python

**> How do I make 'hidden' files i.e. not listed by "ls"? How do I list them?**

**> File permissions and directories**

**>File system mounts and virtual file systems**

**> Copying byte streams with dd**

dd if=/dev/urandom of=~/secret.txt bs=1k count=1024

dd if=/dev/zero of=~/secret.txt bs=1k count=1024

dd if=/dev/zero of=/dev/null bs=1m count=1024

Examples of virtual files in /proc:

cat /proc/sys/kernel/random/entropy\_avail

hexdump /dev/random

hexdump /dev/urandom

**>Fun things to do with /proc**

cat /proc/meminfo

cat /proc/cpuinfo

cat /proc/cpuinfo | grep bogomips

cat /proc/meminfo | grep Swap

cd /proc/self

cat maps

**> File globbing**

What is it?

Who does it?