

How to Unix

Lecture 2
COP 3014 Spring 2017

January 12, 2017

What is Unix?

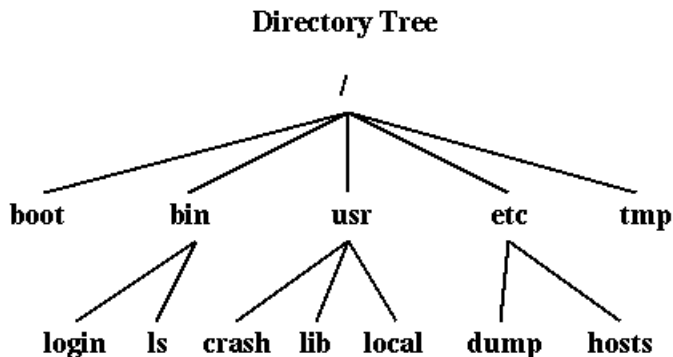
- ▶ Unix is an Operating System. An Operating System is a suite of programs that are essential to running a computer.
- ▶ Unix was originally released in the late 1960's, and has seen updates since then.
- ▶ It is a stable, multi-user, multi-tasking system for servers, desktops and laptops.
- ▶ Unix is command line when used through a terminal.
- ▶ The most popular varieties of UNIX are Sun Solaris, GNU/Linux, and MacOS X.

Structure of Unix

- ▶ The UNIX operating system is made up of three parts; the kernel, the shell and the programs.
- ▶ The kernel is the hub of the OS and performs system tasks. Users don't have access to the kernel.
- ▶ The Shell is the interface between the user and the kernel. There are several shells available, each with certain different features.
- ▶ Everything in user space is either a process or a file.
- ▶ A process is a program currently being executed. All processes have unique process ID's.
- ▶ A file is a collection of data that can be created in various ways.

Unix Directory Structure.

All the files are grouped together in an hierarchical directory structure.



Some Unix Commands

- ▶ **pwd**: Prints the current directory the user is in.
- ▶ **ls**: Lists all the files in the current directory.
- ▶ **clear**: Clears the screen.
- ▶ **cd**: Changes the directory.
 - ▶ **cd path**: Moves to the directory specified by the path.
 - ▶ **cd directory**: Moves to the specified subdirectory.
 - ▶ **cd ..**: Moves to the parent directory.
- ▶ **mkdir dirname**: Creates an empty directory with the given name.
- ▶ **rmdir**: Deletes a directory. Only done when the directory is empty.

Some Unix Commands

- ▶ **man**: Shows the manual for a command. Eg: `man ls`
- ▶ **which**: Shows if a certain program is installed. Eg: `man g++`
- ▶ **cp**: Copies a file. Syntax: `cp source destination`
- ▶ **mv**: Moves, or renames a file. Syntax: `mv source destination`
- ▶ **rm**: Deletes a file. Eg: `rm myFiles`
- ▶ **g++**: Program used to compile a C++ program.
 - ▶ **g++ -o**: Used to specify a name for the executable.
 - ▶ **g++ -c**: Only compiles and creates an object file. Does not create the executable.
- ▶ **vi**: Used to open the vi text editor.