

Engineering Computing

HW#2

Due Wednesday Sept. 3

Basic bash commands (see <http://www.ss64.com/bash/>)

pwd = print working directory
ls = list
chdir (cd) = change directory
mkdir = create (make) a new directory
cp = copy
mv = move
chmod = change mode
cat = concatenate (display contents of a file)
cut = divide a file into parts
bc = calculator
cal = calendar
echo = write a message to standard output (the screen)
head = display first of a file
tail = display end of a file
less = display file one page at a time
color = change color of foreground/background (not available always)
grep = search for a string in the files
history = list command history
locate = find file names that match a pattern
ping = check if a network server is accessible
df = disk free space
whoami

- Use *tab* key to autocomplete commands
- Use *>* to redirect output to a file
- Use *nano* for quick editing
- Use Editpadpro for more sophisticated editing

Unix/Linux Files

In Unix, all files are protected under some access control mechanism, so that the owner of a file can deny access of his files to other users. The first column of the long directory list shows the access characteristics of a file, in the form of 10 flags, e.g. drwxr-xr-x.

The meanings of the flags are shown below:

Position 1 file type: d (directory) - (ordinary file) l (symbolic link)

Position 2-4 permissions for the owner: r (read) w (write) x (execute)

Position 5-7 permissions for other users in the same group

Position 8-10 permissions for all other users

Note that a hyphen ('-') denotes lack of the given permission type. For example, r-x would mean that read and execute permission are granted, but not write permission.

Script Files

Text files to script a set of bash commands

- start file with *#!/bin/bash*
- use *wait* between commands
- use *&* to run in the background

Problems

1. Using the *ls* command how does one list a directories contents, excluding files starting with '.' and '..'?
2. Using the *ls* command how does one list a directory entry without listing the directory contents?
3. Using the *ls* command how does one list a directories contents in long format (without listing the group) ordered by modification time?
4. What is the command to exit the *nano* editor?
5. What is the command to write a file to the name *install.txt* with the *nano* editor?
6. In the *nano* editor how do you search for text?
7. How does one use the *chmod* command in bash to make a file executable by anyone?
8. In bash if you are in the directory - */usr/bin/test/1/* what is the easiest way to change to the */usr/lib/dir/src* directory?
9. What is the command to send an entire file named "myfile.txt" to a new file called "mynewfile.txt" while displaying tabs as ^I (cntrl-I (this is an eye))
10. What will happen if you execute *ps -ef*?
11. If you have a process id (1234) of a particular program that is running, how do you terminate it?
12. What will happen if you execute the command *chmod 422* to a file named "test.exe"?
13. What is the difference between *fgrep* and *grep*?