

Linux Essentials

Programming and Data Structures Lab
M Tech CS – I
2014

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Login, Logout, Password

```
$ ssh, ssh -X
```

```
$ logout, exit, ^d
```

```
$ passwd
```

```
$ man
```

Files and directories

```
$ pwd
```

Present working directory

```
~, pds1ab/day3/...
```

Relative path

```
/home/username, /matlab/.../...
```

Absolute path

Files and directories

•

The current directory

• •

The parent directory

Use of relative path

```
$ cd ~/pds1ab/day2
```

What will happen if we type --

```
$ cd day3
```

```
$ cd ./day3
```

```
$ cd ../day3
```

Files and directories

```
$ ls
```

List the contents

```
$ ls -l
```

```
Total 11
```

drwxr-xr-x	8	deb	staff	272	Jul	11	11:34	Applications
drwxr-xr-x	5	deb	staff	170	Jun	26	23:23	Backup
drwx-----+	4	deb	staff	136	Jul	15	11:04	Desktop
drwx-----+	6	deb	staff	204	Jun	30	13:25	Documents
drwx-----+	46	deb	staff	1564	Jul	31	12:42	Downloads
drwx-----@	17	deb	staff	578	Jul	31	13:23	Dropbox
drwx-----@	8	deb	staff	272	Jul	30	12:07	Google Drive
drwx-----@	54	deb	staff	1836	Jul	21	12:48	Library
drwxrwxrwx	23	deb	staff	782	Jul	26	17:23	Softwares
drwx-----+	3	deb	staff	102	Jun	26	13:04	Movies
drwx-----+	3	deb	staff	102	Jun	26	13:04	Music

Owner

Group

Last
modified

What are
these?

Create and remove (delete)

```
$ mkdir directoryName
```

MAKE the directory

```
$ rmdir directoryName
```

REMOVE the directory

You cannot REMOVE a non-empty directory

```
$ rm fileName
```

REMOVE the file

```
$ rm -i, rm -f
```

REMOVE interactively, or by FORCE!!

Contents of a file

```
$ more filename
```

```
$ less filename
```

less is less work. 😊

```
$ cat filename
```

From the word concatenate – prints the whole content onto the screen.

```
$ head filename
```

Head of the file

```
$ tail filename
```

Tail of the file

Copy, move

```
$ cp file copy_of_file
```

Copy the content of the file

```
$ mv file different_name
```

Rename / move the file.

Which one should take less time for big files?

```
$ cp file1 file2
```

```
$ rm file1
```

mv does not copy and delete the older file, simply changes the pointer

What am I executing?

```
$ ls
```

Where is this ls?

```
$ which ls
```

```
/usr/bin/ls
```

/usr/bin is in the path

```
$ prog1.o
```

```
$ ./prog1.o
```

If . (dot, the current directory) is in the path, then the first command will work. To ensure that you are executing the program in your current directory, and not something else, specify the location

Input, output

```
$ echo "Hi this is me!"
```

Prints "Hi this is me!"

```
$ echo "Hi this is me!" > test.txt
```

Redirects the output to the file. If the file exists, it is overwritten.

```
$ ./prog1.o > output.txt 2> error.txt
```

Redirect STDOUT and STDERR

```
$ ./prog1.o < in.txt > out.txt 2> err.txt
```

Take input from in.txt

```
$ echo "1 2 3 4 5" | ./prog1.o
```

Print "1 2 3 4 5" and use that as the input for the program

Learn yourself

grep

find

diff

sort

ps

top