

Week 6: Review of First Half of the Semester

* File management

- list files: `ls: -l` (long listing) `-d` (directory themselves) `-a` (all include `.`)

- copy files: `cp`, `scp`, `sftp`.

```
cp -r [from] [to]
```

- move/rename files: `mv: -i`

```
mv [from] [to]
-i, --interactive
    prompt before overwrite
```

- create directories: `mkdir: -p` (`-p`, `--parents`)

- remove files: `rm: -r -f` (`-r`, `-R`, `--recursive`; `-f`, `--force`)

- remove directories: `rmdir` - remove empty directories, `rm -rf`

- list permissions: `ls -l` (`ls -ld`)

- change permissions: `chmod`

```
chmod (octal number for user/group/others)
```

```
chmod (+-= rwx ugoa)
```

- change permissions of future new files and directories with `umask`

- change ownership: `chown`

```
chown root /u
```

- search:

* search for files meeting criteria like: name, size, perms, type

```
find (location to search) (find options)
find ./GFG -name sample.txt
find ./GFG -perm 664
```

* search in files that have the search string:

```
grep (options) (filenames)
grep -i "UNix" geekfile.txt (Case insensitive
search)
grep -c "unix" geekfile.txt (Displaying the count
of number)
```

* Text Editing

- create files: touch, vi/gvim, cat (cat > abcFile.txt), echo (echo "This is the File name file3" > file3.txt)

- edit files: vi/gvim

- display file contents: cat: -n

```
-n, --number
    number all output lines
```

* Getting Help

- man pages: man:

* Additional utilities

- head/tail

- wc

- sort

- cut

- tr

Absolute and relative pathnames

* absolute pathnames ALWAYS begin with /

* relative pathnames NEVER begin with / and pathname is relative to the

current working directory

. present directory

.. parent directory

~ home directory of logged in user, example ~ can be

 /home/bob when user bob is logged, and /home/
lisa when user
 lisa is logged in

~user home directory of user, example
~mark.fernandes is
 always /home/mark.fernandes no matter who is logged
in: bob or
 lisa.

[anything else other than /] directory/file name

* What is the difference between:

ls ~uli101

and

ls ~/uli101

and

ls ~

Wildcards and shell expansion

- * Using wildcards to get files: *,?,[],!
 ls ????.txt
 ls [a-zA-Z0-9][a-zA-Z0-9][a-zA-Z0-9].txt
 cat [!l][!s]

- * Difference between single and double quotes :
Enclosing characters in double quotes (") preserves the literal value of all characters within the quotes, with the exception of \$, `, \

Data Representation

- * HOWTO convert between decimal and bin/oct/hex
 (hint: use math to convert)
- * HOWTO convert between bin/oct/hex and oct/hex/bin, hex/oct/bin, etc.
 (hint: draw the table for numbers: 0-15)
- * using ssh/scp/sftp to connect and transfer files remotely
- * get/put files local and remote (matrix)