**File Management**

* sudo (to get root privileges)
* whoami (to see user)
* cat (create & append file)
* touch (create blank file)
* nano (create & edit file)
* vi/vim (create & edit file)
* ls (list) (-a, -la)
* cd (change directory)
* pwd (print working directory)
* mkdir (create directory, multiple)
* cp (copy)
* mv (move)
* mv (rename)
* rm (remove file)
* tree (see in tree structure)
* rm -rf(remove directory & recursive)
* head (see top 10 lines)
* tail (see last 10 lines)
* ls ch\*.doc
* ls -a - To list the hidden files

**Display Content of a File**

* cat filename
* cat -b filename

**Copying Files**

* cp source\_file destination\_file

**Deleting Files**

* rm filename
* rm filename1 filename2 filename3

**Directory Management**

* $pwd pwd to print the current working directory ?
* cd -change directory
* . current directory
* .. parents directory
* ls mkdir -p rmdir

**Find**

* find -type f (to see all files in current directory)
* find -type d (to see all directories in current directory)
* find / -type f (to see all files under top level root directory)
* find / -type d (to see all directories under top level root directory)
* find / -type f -name <file\_name> (to search specific file under top level root directory)
* find / -type d -name <dir\_name> (to search specific dir under top level root directory)

**File Permission / Access Modes**

* chmod o+wx testfile
* $chmod o+wx,u-x,g = rx testfile
* 0 No permission ---
* 1 Execute permission --x
* 2 Write permission -w-
* 3 Execute and write permission: 1 (execute) + 2 (write) = 3 -wx
* 4 Read permission r--
* 5 Read and execute permission: 4 (read) + 1 (execute) = 5 r-x
* 6 Read and write permission: 4 (read) + 2 (write) = 6 rw-
* 7 All permissions: 4 (read) + 2 (write) + 1 (execute) = 7 rwx

**Changing Owners and Groups**

* chown (owner)
* chgrp (group)

**Environment**

* $TEST="Unix Programming"
* $echo $TEST
* It produces the following result. = Unix Programming

**Basic Utilities - Printing, Email**

* $pr -2 -h "Restaurants" food
* $mail -s "Test Message" admin@yahoo.com

**Pipes and Filters**

* The grep Command
* $ls -l | grep "Aug"
* -v Prints all lines that do not match pattern.
* -n Prints the matched line and its line number.
* -l Prints only the names of files with matching lines (letter "l")
* -c Prints only the count of matching lines.
* -i Matches either upper or lowercase.

**The sort Command**

* $ls -l | grep "Aug" | sort +4n
* -n Sorts numerically
* -r Reverses the order of sort.
* - f Sorts upper and lowercase together.

**Processes Management**

* Starting a Process

$ls ch\*.doc

* Background Processes

$ls ch\*.doc &

**Network Communication Utilities**

* The ping command sends an echo request to a host available on the network. Using this command, you can check if your remote host is responding well or not.
* The ping Utility = $ping hostname or ip-address
* ping google.com

**The ftp Utility**

* Here, ftp stands for File Transfer Protocol. This utility helps you upload and download your file from one computer to another computer.
* Connect and login to a remote host.
* Navigate directories.
* List directory contents.
* Put and get files.
* Transfer files as ascii, ebcdic or binary.

**The finger Utility**

* The finger command displays information about users on a given host. The host can be either local or remote.
* Check all the logged-in users on the remote machine ?
* $ finger @avtar.com

**The vi Editor**

* vi filename

Creates a new file if it already does not exist, otherwise opens an existing file.

* vi -R filename

Opens an existing file in the read-only mode.

* $vi testfile
* Insert mode i

**Grep**

**To Find a string**

* cat <filename>| grep "String to find"

**Sort**

* sort (display in Alphabetic/Numeric order)
* sort -r <filename>
* Reverce order
* sort -n <filename>
* Numberical order

**Wildcard**

***Use to search specific pattern***

ls ch\*.doc

* ? only single char
* \* zero or more
* ^ beginning
* $ end of the line
* [] range eg. mkdir newFilename [1..10]

**Soft Link (shortcut)**

* ln -s <filename>

**Hard Link (backup)**

* ln <filename>

**To compress**

1. tar cvf <new file name.tar> <file1><file2>
2. gzip<filename.tar>  
   To unzip
3. gunzip<filename>
4. tar xvf<file name.tar>
5. Display file content = tarv -tf <filename>

**Package managment**

wget (to download)

* wget <Binary package link>
* wget -p <path where you want to download> **<b package link>**
* wget -D <path where you want to download> **<b package link>** // save logs in the same folder
* **dpkg -i <.deb file path>** // install the package

**APT**

* apt search <package name>
* apt install <package name>
* apt search <package name>
* apt show <package name>
* apt remove <package name> // remove the package
* apt purge <package name> // remove the package file
* apt update //Update
* sudo apt get update
* sudo apt get install<package name>

**SCP**

***upload file to server***

sudo scp -i <.pem file> <file to sned > <machine name> : <path>

***download file from the server***

sudo scp -i <.pen file> <source> : <filepath/name> <destination>