

**Lab 1: Linux Commands:****A. Basic linux commands****\$ ls (list short)**

this command is used for finding out what is in the current directory. It lists the contents of the current working directory.

\$ ls -a : used for listing all files including hidden

\$ ls -l : used for listing all files in details excluding hidden files

\$ ls "list" : used for listing the files that names start with "list" in the current working directory

\$ ls \*list : used for listing the files that names end with "list" in the current working directory

\$ ls ~betul : used for listing the contents of your betul directory which is under your home directory

**\$ mkdir (make directory)**

this command is used for creating a new directory into the present working directory.

\$ mkdir betul : used for creating a directory called betul into the current working directory.

**\$ cd (change directory)**

this command is used for changing the current working directory to a different directory.

\$ cd betul : changes the current working directory to the directory called betul

\$ cd : used for returning the home directory

\$ cd .. : used for taking one directory up in the hierarchy

Note: In unix and linux there are two special directories called "." (dot) and ".." (two dots or double dot). "." means the current directory and ".." means the parent of the current directory

**\$ pwd (print working directory)**

this command is used for finding out the absolute pathname of your present working directory.

**\$ cp (copy)**

this command is used for copying files.

\$ cp *filename copyfilename* : is used for copying a file with another name at the same directory

\$ cp *filename directoryname* : is used for copying a file from the current directory to another subdirectory. In this case the file is copied with the same name

\$ cp *filename directoryname newfilename* : is used for copying a file from the current directory to another subdirectory. In this case the file is copied with a different name.

\$ cp *./filename* : is used for copying the file from the directory above (represented by ".") to the current directory

**\$ mv (move)**

this command is used for renaming or moving files.

\$ mv *oldfilename newfilename* : renames original file with new filename

\$ mv *filename directoryname filename* : moves file to another directory with keeping the same filename

\$ mv *filename directoryname newfilename* : moves file to another directory with giving another filename

**\$ rm (remove)**

this command is used for deleting files.

\$ rm *filename* : removes file from the current directory

\$ rm *dirname* : removes the file from another directory

\$ rm *./filename* : removes file from directory above

**\$ rmdir (removed directory)**

this command is used for removing directory. Note that unix will not allow removing non-empty directories.

\$ rm -r *directoryname* : is used for removing a directory with files. (-r means recursive)

**\$ clear (clear screen)**

this command clears all text and leaves the prompt at the top of the window.

**\$ find**

this command is used for finding files. It is used with -name flag. The directory must be specified.

\$ find . -name *myfile* : searches the file called myfile in the current directory

\$ find *directory* -name *myfile* : searches the file called myfile in the given directory

**B. File Operations****B1. Displaying the contents of a file on the screen****\$ less**

this command is used for displaying the contents of a file on the screen. It writes the contents of a file onto the screen a page at a time.

\$ less *filename*

**\$ head**

this command is used for displaying the contents of a file on the screen. By default it displays first ten lines of a file.

\$ head -6 *myfile* : displays the first 6 lines of the file

**\$ tail**

this command is used for displaying the contents of a file on the screen. By default it displays last ten lines of a file.

\$ tail -6 *myfile* : displays the last 6 lines of the file

**\$ wc (wordcount)**

this command is used for finding out how many lines the file has.

\$ wc -l *science.txt*

**\$ cat (concatenate)**

this command is used for displaying the contents of a file on the screen. If the file is longer than the size of the window, it scrolls past making it unreadable

\$ cat *filename*

Directory	Owner	Group	Others
-	rwx	rw-	r--
D	rw-	rw-	r--

Access rights:

first column indicates that it is directory or file. If it is directory, **d** is present otherwise it is empty.

next 3 column groups indicate the file permissions of the owner of the file or directory, group of people to whom the file or directory belongs and other users respectively.

on file:

r : read and copy the file

w : change the file

x : execute a file

on directory:

r : allows users to list files in the directory

w : allows users to delete files from the directory or move files into it

x : allow to access files in the directory

**\$ chmod (change mode)**

this command is used for changing access rights of the file or directory

\$ chmod go-rwx *biglist* : remove read, write and execute permissions on the file *biglist* for the group and others.

\$ chmod a+rw *bigfile* : add read and write permission on the file *bigfile* for all users

\$ chmod 500 *list1* : gives read and execute permission to the owner and removes rest of the permissions

- rX -- --

- 101 000 000 (=500)

**C. Processes and Jobs**

A process is an executing program identified by a unique PID (process identifier). It can be in background, in foreground or be suspended.

**\$ ps**

this command is used for seeing information about the processes.

[3] running edit  
Lists the background and suspended processes then restarts the suspended process sleep 100.

**&**

this symbol is used for working the process on the background.

\$ sort list > sortedlist &

[1] 770

Sort commands worked on the background.

[1] → indicates the PID number, 770 → indicates the processid0

**bg**

this command is used for background a current foreground process.

**\$fg**

this command is used for foreground a background or suspended process

This is used for background a current working process

\$ sleep 100

^Z

#bg

**\$jobs**

this command is used for listing suspended and background processes

\$jobs

[1] Suspended sleep 100

[2] running netscape

\$fg 1

^Z

this is used for suspending a job

^C

this is used for killing a job

**\$kill**

this command is used for killing suspended or background process

: Access rights    Owner of the file    Group of the file    Size of the file    Creation date    File name

\$ps

PID    TTY    STAT    TIME    COMMAND

20077   pts/5   S    0:05   sleep 100

21357   pts/5   T    0:00   netscape

\$kill 20077