Aim: Familiarization with Linux command.

CO2: Perform system administration tasks.

Procedure:

1. pwd: to print the working directory.
   . print the path of the working directory.
   $pwd
   Output:

```
student@t2:~$ pwd
/home/student
```

2. ls: Used to list the files and contents
   $ls
   Output:

```
student@t2:~$ ls
demo Desktop Destimona Documents Downloads file1 Music pic Pictures Public PycharmProjects snap sree sub Templates Videos
```

   i.   ls -R: This will list all the subdirectories
        $ls -R
        Output:

```
student@t2:~$ ls -R
.:
demo Desktop Destimona Documents Downloads file1 Music pic Pictures Public PycharmProjects snap sree sub Templates Videos

./demo:
demo2 file1 file3 myfile myfile2

./demo/demo2:

./Desktop:
ls.png  pwd.png

./Destimona:

./Documents:

./Downloads:

./Music:

./pic:
cat1.png  cat3.png  history.png  lsa.png  ls.png  lst.png  mkdir.png  rmdir.png
cat2.png  cd.png    lsal.png     lsl.png  lsR.png  man.png  pwd.png

./Pictures:

./Public:

./PycharmProjects:
pythonProject

./PycharmProjects/pythonProject:
main.py  venv

./PycharmProjects/pythonProject/venv:
bin  lib  pyvenv.cfg

./PycharmProjects/pythonProject/venv/bin:
activate      activate.fish  activate.ps1      deactivate.nu  f2py3   pip   pip-3.9  python   python3.9  wheel3      wheel3.9
```

   ii. ls -l: long listing,
        $ls -l
        Output:

```
student@t2:~$ ls -l
total 64
drwxrwxr-x 3 student student 4096 Mar  7 16:51 demo
drwxr-xr-x 2 student student 4096 Mar  9 15:24 Desktop
drwxrwxr-x 2 student student 4096 Mar  9 14:37 Destimona
drwxr-xr-x 2 student student 4096 Jun 17  2022 Documents
drwxr-xr-x 2 student student 4096 Jun 17  2022 Downloads
-rw-rw-r-- 1 student student   89 Mar  9 14:59 file1
drwxr-xr-x 2 student student 4096 Jun 17  2022 Music
drwxrwxr-x 2 student student 4096 Mar  7 16:59 pic
```

iii. ls -a: To view the hidden files.

$ls -a

Output:

```
student@t2:~$ ls -a
.              .bash_logout  .config   Destimona  file1    .java    Music     .pki      PycharmProjects  .ssh       Videos
..             .bashrc       demo      Documents  .gnome   .local   pic       .profile  snap             sub
.bash_history  .cache        Desktop   Downloads  .gnupg   .mozilla Pictures  Public    sree             Templates
```

iv. ls -al: list the files and directories with detailed information including hidden files.

$ls -al

Output:

```
student@t2:~$ ls -al
total 124
drwxr-xr-x 26 student student 4096 Mar   9 15:18 .
drwxr-xr-x  6 root    root    4096 Jun 17  2022 ..
-rw-------  1 student student 1232 Mar   9 15:16 .bash_history
-rw-r--r--  1 student student  220 Jun 17  2022 .bash_logout
-rw-r--r--  1 student student 3771 Jun 17  2022 .bashrc
drwxrwxr-x 19 student student 4096 Mar   7 16:37 .cache
drwxr-xr-x 17 student student 4096 Mar   9 15:18 .config
drwxrwxr-x  3 student student 4096 Mar   7 16:51 demo
drwxr-xr-x  2 student student 4096 Mar   9 15:31 Desktop
drwxrwxr-x  2 student student 4096 Mar   9 14:37 Destimona
drwxr-xr-x  2 student student 4096 Jun 17  2022 Documents
drwxr-xr-x  2 student student 4096 Jun 17  2022 Downloads
-rw-rw-r--  1 student student   89 Mar   9 14:59 file1
drwx------  3 student student 4096 Mar   9 15:18 .gnome
drwx------  3 student student 4096 Mar   9 15:15 .gnupg
drwxrwxr-x  4 student student 4096 Jun 17  2022 .java
drwxr-xr-x  3 student student 4096 Jun 17  2022 .local
drwx------  5 student student 4096 Mar   6 12:39 .mozilla
drwxr-xr-x  2 student student 4096 Jun 17  2022 Music
drwxrwxr-x  2 student student 4096 Mar   7 16:59 pic
drwxr-xr-x  2 student student 4096 Mar   7 16:59 Pictures
drwx------  3 student student 4096 Mar   7 16:37 .pki
-rw-r--r--  1 student student  807 Jun 17  2022 .profile
drwxr-xr-x  2 student student 4096 Jun 17  2022 Public
drwxrwxr-x  3 student student 4096 Jun 17  2022 PycharmProjects
drwx------  3 student student 4096 Jun 17  2022 snap
drwxrwxr-x  2 student student 4096 Mar   7 14:58 sree
drwx------  2 student student 4096 Jun 17  2022 .ssh
drwxrwxr-x  3 student student 4096 Mar   7 15:20 sub
drwxr-xr-x  2 student student 4096 Jun 17  2022 Templates
drwxr-xr-x  2 student student 4096 Jun 17  2022 Videos
```

v. ls -t: list the files in sorted in the order of last modified.

$ ls -t

Output:

```
student@t2:~$ ls -t
Desktop  file1  Destimona  pic  Pictures  demo  sub  sree  PycharmProjects  snap  Documents  Downloads  Music  Public  Templates  Videos
student@t2:~$
```

vi. ls -r: reverse the actual sorting order.

$ls -r

Output:

```
student@t2:~$ ls -r
Videos      sreerag1                                                       snap             Pictures  Documents  Desktop
test        sreerag                                                        PycharmProjects  Music     directory  1
Templates   'snap Desktop Documents Downloads Music Pictures Public Templates Videos'  Public  Downloads  dir1
```

3. mkdir: to make the directory

$mkdir [filename]

Output:

```
student@t2:~$ mkdir Desti
student@t2:~$
```

4. cd: to navigate through the directory.

$cd [filename]

Output:

```
student@t2:~$ cd Desti
student@t2:~/Desti$
```

5. cd -- / cd ..: to go to the previous directory.
   $cd ..
   Output:

```
student@t2:~/Desti$ cd --
student@t2:~$
```

6. history:
   To view the history and the commands which you have been executed for certain period of
   time.
   $history
   Output:

```
student@t2:~$ history
    1  ./studio.sh
    2  ./studio.sh
    3  su mca
    4  pwd
    5  ls
    6  ls-R
    7  ls -R
    8  ls -l
    9  ls -a
   10  ls -al
   11  ls -t
   12  ls -r
   13  history
   14  man
   15  wq
   16  mkdir sree
   17  pwd
   18  cd sree
   19  pwd
   20  cd ..
   21  cd sree
   22  touch file1.txt
   23  cat > file1.txt
   24  cat file1.txt
   25  cat > file2.txt
   26  cat  file2.txt
   27  cat file2.txt
   28  ls
   29  pwd
   30  cat > file3.txt
   31  cat file3.txt
   32  cat >> file3.txt
   33  cat file3.txt
   34  cat > ajce.txt
   35  cat ajce.txt
   36  cat > sreehari.txt
```

7. man: we can learn and understand about the shell using man command.
   $man ls
   Output:

```
                                        student@t2: ~
LS(1)                                User Commands                                LS(1)

NAME
       ls - list directory contents

SYNOPSIS
       ls [OPTION]... [FILE]...

DESCRIPTION
       List  information  about the FILEs (the current directory by default).  Sort entries alphabetically if none of -cftuvSUX nor --sort
       is specified.

       Mandatory arguments to long options are mandatory for short options too.

       -a, --all
              do not ignore entries starting with .

       -A, --almost-all
              do not list implied . and ..

       --author
              with -l, print the author of each file

       -b, --escape
              print C-style escapes for nongraphic characters

       --block-size=SIZE
              with -l, scale sizes by SIZE when printing them; e.g., '--block-size=M'; see SIZE format below
```

8. cat: to create file.
   i. $cat > [filename]
         Output:

         ```
         student@t2:~$ cat >>file
         sona
         dilna
         diya
         appu
         gayu
         ^Z
         [3]+  Stopped                  cat >> file
         ```

   ii.   cat [filename]: to display the file contents.
         $ cat file
         Output:

         ```
         student@t2:~$ cat file
         sona
         dilna
         diya
         appu
         gayu
         ```

   iii. cat >> [filename]: to append the file.
         $cat >> file
         Output:

         ```
         student@t2:~$ cat >>file
         akhila
         surya
         ^Z
         [4]+  Stopped                  cat >> file
         ```

   iv.   cat -n [filename]: to display the line number.
         $cat -n file
         Output:

         ```
         student@t2:~$ cat -n file
              1  sona
              2  dilna
              3  diya
              4  appu
              5  gayu
              6  akhila
              7  surya
         ```

   v.   cat -b [filename]: to remove numbering from empty line.
         $cat -b dinla1
         Output:

```
student@t2:~$ cat -n file
     1  sona
     2  dilna
     3  diya
     4  appu
     5  gayu
     6  akhila
     7  surya
     8
     9
    10
    11  irine
    12  ardra
```

Experiment no:4   **Date:10-03-2023**

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CO2: Perform system administration tasks.

1.   i. cut -c[filename]: To cut by character,for cutting out sections from each line of file and writting the result to standard output.

   $ cut -c 1,3,5 newfile

   Output:
   ```
   student@t2:~/Destimona$ cut -c 1,3,5 newfile
   Egi
   Mts
   Mly
   ```

ii. cut -b :To cut by byte position
   $ cut -b 1,2 newfile
   Output:
   ```
   student@t2:~/Destimona$ cut -b 1,2 newfile
   En
   Ma
   Ma
   ```

iii. cut -d : To cut by delimiter
   $ cut -d - -f1 newfile
   $ cut -d - -f2 newfile
   Output:
   ```
   student@t2:~/Destimona$ cut -d - -f1 newfile
   English
   Maths
   Malayalam
   student@t2:~/Destimona$ cut -d - -f2 newfile
   90
   80
   100
   ```

iv.. cut - complement : Cut by complement pattern
   $ cut - - complement -c 1 newfile
   Output:
   ```
   student@t2:~/Destimona$ cut --complement -c 1 newfile
   nglish-90
   aths-80
   alayalam-100
   ```

2. paste : Paste command is used to join files consist of lines from each file horizontally outputing lines.
   i. $ paste myfile2 myfile1
   Output:

```
student@t2:~/Destimona$ paste myfile2 myfile1
biology english
chemistry        maths
physics malayalam
```

   ii.$ paste -d '%' mark1 mark2 >mark3
   $ cat mark3
   Output:

```
student@t2:~/Destimona$ paste -d '%' mark1 mark2 > mark3
student@t2:~/Destimona$ cat mark3
A-90%C-80
B-80%D-60
```