EXPERIMENT NO. 2

BASIC COMMANDS IN UNIX

AIM: Study of UNIX general purpose utility commands.

REQUIREMENT: Computer machine, UBUNTU OS

THEORY: UNIX commands can often be grouped together to make more powerful capabilities known as I/O redirection and piping. There are certain commands that are essential to be known to get started with UNIX. Some of the commands are:

1. **cd:** Changes the current working directory
2. **mkdir:** Creates a new directory
3. **rmdir:** Removes the directory
4. **pwd:** Writes the full pathname of the current working directory to the standard output.
5. **touch:** Creates a new file
6. **gedit:** Opens the default GUI text editor in the Ubuntu OS
7. **cat:** Creates single or multiple files, concatenates files and redirects output in terminal or files.
8. **mv:** Moves files and directories
9. **rm:** By default, it does not remove directories. The –recursive command is used to remove each listed directory.
10. **ls:** Lists the directory contents of files and directories
11. **cp:** Copies the source file to the destination file
12. **ps:** Provides information about the currently processes
13. **man:** It is the interface used to view system's reference manuals
14. **who:** Displays the list of users who are currently logged into the computer
15. **whoami:** Prints the user name associated with the current effective user id
16. **echo:** Outputs the strings being passed as arguments
17. **date:** Displays the current date and time
18. **time:** Determines the duration of execution of a particular command
19. **cal:** Prints an ASCII calendar of the given month or year
20. **history:** Stores the history of commands entered, which can be used to repeat the commands
21. **head:** Outputs the first part of files given to it via standard input
22. **tail:** Outputs the last part of files given to it via standard output
23. **more:** Enables to view the text files or other output in a scrollable manner

24. less: Enables to view files instead of opening the file

25. passwd: Changes the password of a user account

26. chmod: Changes the file mode bits of each given file according to mode, so may change the access permissions to file system objects

27. chown: Changes the owner of system files, directories

28. bc: It is used as used to perform arithmetic calculations

29. finger: May be used to look up users on a remote machine

30. clear: Clears the screen

31. halt: Instructs the hardware to stop all CPU functions

32. reboot: Instructs the system to reboot

33. poweroff: Sends an ACPI signal which instructs the system to power down

CODE AND OUTPUT:

```
ict30@ict30-ThinkCentre-M71e:~$ sudo su
[sudo] password for ict30:

root@ict30-ThinkCentre-M71e:/home/ict30# cd Desktop
root@ict30-ThinkCentre-M71e:/home/ict30# pwd
/home/ict30
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# mkdir Pascal
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# ls

827 diffie.java  exptno2.odt  hello1.txt   pranil.java
abc    exptno1.docx hello      pranil      number.cpp
diffie.class exptno2.docx hello1     pranil2.java Pascal
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# ls -a
.  abc        exptno1.docx hello    pranil      number.cpp
.. diffie.class exptno2.docx hello1    pranil2.java Pascal
827 diffie.java  exptno2.odt  hello1.txt pranil.java

root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# ls -i
10225219 827        10225130 exptno2.docx  10224823 pranil
10225180 abc         10225161 exptno2.odt   10224778 pranil2.java
10224970 diffie.class  10224771 hello      10224688 pranil.java
10225066 diffie.java   10224371 hello1       10225171 number.cpp
10225120 exptno1.docx  10224786 hello1.txt    10225168 Pascal




root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# ls -l
total 280
drwxrwxr-x 2 ict30  ict30  4096 Jan 17 15:30 827
-rw-rw-r-- 1 pranil ict30    33 Jan 16 11:44 abc
```

```
-rw-rw-r-- 1 pranil ict30  1466 Jan 15 09:16 diffie.class
-rw-rw-r-- 1 ict30  ict30   951 Jan 15 09:15 diffie.java
-rw-r--r-- 1 ict30  ict30 82031 Jan  8 20:25 exptno1.docx
-rw-r--r-- 1 ict30  ict30 71167 Jan 15 14:47 exptno2.docx
-rw-rw-r-- 1 ict30  ict30 77817 Jan 15 09:29 exptno2.odt
drwxrwxrwx 2 ict30  ict30  4096 Jan  9 11:29 hello
-rw-rw-r-- 1 ict30  ict30    46 Jan  9 11:29 hello1
-rwxrwxrwx 1 ict30  root    46 Jan  9 11:27 hello1.txt
-rw-rw-r-- 1 ict30  ict30    46 Jan  9 11:27 pranil
-rw-rw-r-- 1 ict30  ict30    53 Jan 10 10:53 pranil2.java
-rwxrwxrwx 1 ict30  ict30    53 Jan 10 10:51 pranil.java
-rw-rw-r-- 1 ict30  ict30   438 Jan 15 09:42 number.cpp
drwxr-xr-x 2 root   root   4096 Jan 18 10:56 Pascal

root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# touch xyz.txt
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# gedit xyz.txt

root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# cat xyz.txt
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# gedit xyz.txt

root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# cat xyz.txt
Hello

root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# ps
  PID TTY          TIME CMD
 2207 pts/4    00:00:00 sudo
 2208 pts/4    00:00:00 su
 2209 pts/4    00:00:00 bash
 2267 pts/4    00:00:00 dbus-launch
 2539 pts/4    00:00:00 ps

root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# date
Thu Jan 18 11:22:05 IST 2018

root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# date +%d
18
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# date +%m
01
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# date +%y
18
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# date +%D
01/18/18
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# date +%Y
2018
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# date +%M
22
```

```
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# date +%h
Jan
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# date +%H
11
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# date +%s
1516254783
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# date +%S
07
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# time

real    0m0.000s
user    0m0.000s
sys     0m0.000s

root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# cal
    January 2018
Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6
 7  8  9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30 31

root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# cal -h
    January 2018
Su Mo Tu We Th Fr Sa
  1  2  3  4  5  6
 7  8  9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30 31

root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# ncal
    January 2018
Su     7 14 21 28
Mo  1  8 15 22 29
Tu  2  9 16 23 30
We  3 10 17 24 31
Th  4 11 18 25
Fr  5 12 19 26
Sa  6 13 20 27
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# cal -3

   December 2017        January 2018        February 2018
Su Mo Tu We Th Fr Sa  Su Mo Tu We Th Fr Sa  Su Mo Tu We Th Fr Sa
                1  2    1  2  3  4  5  6              1  2  3
 3  4  5  6  7  8  9    7  8  9 10 11 12 13    4  5  6  7  8  9 10
```

```
10 11 12 13 14 15 16  14 15 16 17 18 19 20  11 12 13 14 15 16 17
17 18 19 20 21 22 23  21 22 23 24 25 26 27  18 19 20 21 22 23 24
24 25 26 27 28 29 30  28 29 30 31           25 26 27 28
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# cal 2018
                   2018
      January            February            March
Su Mo Tu We Th Fr Sa  Su Mo Tu We Th Fr Sa  Su Mo Tu We Th Fr Sa
    1  2  3  4  5  6            1  2  3            1  2  3
 7  8  9 10 11 12 13   4  5  6  7  8  9 10   4  5  6  7  8  9 10
14 15 16 17 18 19 20  11 12 13 14 15 16 17  11 12 13 14 15 16 17
21 22 23 24 25 26 27  18 19 20 21 22 23 24  18 19 20 21 22 23 24
28 29 30 31           25 26 27 28           25 26 27 28 29 30 31

       April              May                 June
Su Mo Tu We Th Fr Sa  Su Mo Tu We Th Fr Sa  Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6  7         1  2  3  4  5               1  2
 8  9 10 11 12 13 14   6  7  8  9 10 11 12   3  4  5  6  7  8  9
15 16 17 18 19 20 21  13 14 15 16 17 18 19  10 11 12 13 14 15 16
22 23 24 25 26 27 28  20 21 22 23 24 25 26  17 18 19 20 21 22 23
29 30                 27 28 29 30 31        24 25 26 27 28 29 30

        July              August            September
Su Mo Tu We Th Fr Sa  Su Mo Tu We Th Fr Sa  Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6  7            1  2  3  4                     1
 8  9 10 11 12 13 14   5  6  7  8  9 10 11   2  3  4  5  6  7  8
15 16 17 18 19 20 21  12 13 14 15 16 17 18   9 10 11 12 13 14 15
22 23 24 25 26 27 28  19 20 21 22 23 24 25  16 17 18 19 20 21 22
29 30 31              26 27 28 29 30 31     23 24 25 26 27 28 29
                                            30
      October            November            December
Su Mo Tu We Th Fr Sa  Su Mo Tu We Th Fr Sa  Su Mo Tu We Th Fr Sa
    1  2  3  4  5  6            1  2  3                     1
 7  8  9 10 11 12 13   4  5  6  7  8  9 10   2  3  4  5  6  7  8
14 15 16 17 18 19 20  11 12 13 14 15 16 17   9 10 11 12 13 14 15
21 22 23 24 25 26 27  18 19 20 21 22 23 24  16 17 18 19 20 21 22
28 29 30 31           25 26 27 28 29 30     23 24 25 26 27 28 29
                                 30 31



root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# cal -j
      January 2018
 Su  Mo  Tu  We  Th  Fr  Sa
      1   2   3   4   5   6
  7   8   9  10  11  12  13
 14  15  16  17  18  19  20
```

```
 21  22  23  24  25  26  27
 28  29  30  31

root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# cal -j 2018
                2018
        January                 February
 Su  Mo  Tu  We  Th  Fr  Sa   Su  Mo  Tu  We  Th  Fr  Sa
      1   2   3   4   5   6               32  33  34
  7   8   9  10  11  12  13   35  36  37  38  39  40  41
 14  15  16  17  18  19  20   42  43  44  45  46  47  48
 21  22  23  24  25  26  27   49  50  51  52  53  54  55
 28  29  30  31               56  57  58  59


         March                   April
 Su  Mo  Tu  We  Th  Fr  Sa   Su  Mo  Tu  We  Th  Fr  Sa
              60  61  62   91  92  93  94  95  96  97
 63  64  65  66  67  68  69   98  99 100 101 102 103 104
 70  71  72  73  74  75  76  105 106 107 108 109 110 111
 77  78  79  80  81  82  83  112 113 114 115 116 117 118
 84  85  86  87  88  89  90  119 120


          May                    June
 Su  Mo  Tu  We  Th  Fr  Sa   Su  Mo  Tu  We  Th  Fr  Sa
     121 122 123 124 125               152 153
126 127 128 129 130 131 132  154 155 156 157 158 159 160
133 134 135 136 137 138 139  161 162 163 164 165 166 167
140 141 142 143 144 145 146  168 169 170 171 172 173 174
147 148 149 150 151          175 176 177 178 179 180


          July                   August
 Su  Mo  Tu  We  Th  Fr  Sa   Su  Mo  Tu  We  Th  Fr  Sa
182 183 184 185 186 187 188          213 214 215 216
189 190 191 192 193 194 195  217 218 219 220 221 222 223
196 197 198 199 200 201 202  224 225 226 227 228 229 230
203 204 205 206 207 208 209  231 232 233 234 235 236 237
210 211 212                  238 239 240 241 242 243




        September                October
 Su  Mo  Tu  We  Th  Fr  Sa   Su  Mo  Tu  We  Th  Fr  Sa
                     244       274 275 276 277 278 279
245 246 247 248 249 250 251  280 281 282 283 284 285 286
252 253 254 255 256 257 258  287 288 289 290 291 292 293
259 260 261 262 263 264 265  294 295 296 297 298 299 300
```

```
266 267 268 269 270 271 272  301 302 303 304
273


     November              December
 Su Mo Tu We Th Fr Sa  Su Mo Tu We Th Fr Sa
          305 306 307                335
308 309 310 311 312 313 314  336 337 338 339 340 341 342
315 316 317 318 319 320 321  343 344 345 346 347 348 349
322 323 324 325 326 327 328  350 351 352 353 354 355 356
329 330 331 332 333 334      357 358 359 360 361 362 363
                364 365


root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# cal -w
Usage: cal [general options] [-hjy] [[month] year]
     cal [general options] [-hj] [-m month] [year]
     ncal [general options] [-bhJjpwySM] [-s country_code] [[month] year]
     ncal [general options] [-bhJeoSM] [year]
General options: [-NC31] [-A months] [-B months]
For debug the highlighting: [-H yyyy-mm-dd] [-d yyyy-mm]

root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# mv xyz.txt pqr.txt
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# gedit pqr.txt

root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# head -5 pqr.txt
Hello
science
english
maths
physics
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# tail -5 pqr.txt
maths
physics
chemistry
biology
computers




root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# more pqr.txt
Hello
science
english
maths
physics
```

chemistry
biology
computers

root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# less pqr.txt
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# man ls
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
            scale sizes by SIZE before printing them; e.g., '--block-size=M' prints sizes in units of
1,048,576 bytes; see SIZE format
          below

     -B, --ignore-backups
          do not list implied entries ending with ~

      -c   with -lt: sort by, and show, ctime (time of last modification of file status information);
with -l: show ctime and sort by
          name; otherwise: sort by ctime, newest first

     -C   list entries by columns

--color[=WHEN]
     colorize the output; WHEN can be 'always' (default if omitted), 'auto', or 'never'; more info below

-d, --directory

-D, --dired
     generate output designed for Emacs' dired mode

-f   do not sort, enable -aU, disable -ls --color

-F, --classify
     append indicator (one of */=>@|) to entries

--file-type
     likewise, except do not append '*'

--format=WORD
     across -x, commas -m, horizontal -x, long -l, single-column -1, verbose -l, vertical -C

--full-time
     like -l --time-style=full-iso

-g   like -l, but do not list owner

--group-directories-first
     group directories before files;

     can be augmented with a --sort option, but any use of --sort=none (-U) disables grouping

--hide=PATTERN
     do not list implied entries matching shell PATTERN (overridden by -a or -A)

--indicator-style=WORD
     append indicator with style WORD to entry names: none (default), slash (-p), file-type (--file-type), classify (-F)

-i, --inode
     print the index number of each file

-m   fill width with a comma separated list of entries

-n, --numeric-uid-gid
     like -l, but list numeric user and group IDs

-N, --literal

print raw entry names (don't treat e.g. control characters specially)

-o   like -l, but do not list group information

-p, --indicator-style=slash
        append / indicator to directories

-q, --hide-control-chars
        print ? instead of nongraphic characters

--show-control-chars
show nongraphic characters as-is (the default, unless program is 'ls' and output is a terminal)

-Q, --quote-name
        enclose entry names in double quotes

--quoting-style=WORD
        use quoting style WORD for entry names: literal, locale, shell, shell-always, shell-escape,
shell-escape-always, c, escape

-r, --reverse
        reverse order while sorting

-R, --recursive
        list subdirectories recursively

-s, --size
        print the allocated size of each file, in blocks

-S   sort by file size, largest first

--sort=WORD
        sort by WORD instead of name: none (-U), size (-S), time (-t), version (-v), extension (-X)

--time=WORD
        with -l, show time as WORD instead of default modification time: atime or access or use
(-u); ctime or status (-c); also use
        specified time as sort key if --sort=time (newest first)

--time-style=STYLE
            with -l, show times using style STYLE: full-iso, long-iso, iso, locale, or +FORMAT;
FORMAT is interpreted like in 'date'; if
        FORMAT is FORMAT1<newline>FORMAT2, then FORMAT1 applies to non-recent files
and FORMAT2 to recent files; if STYLE is prefixed
        with 'posix-', STYLE takes effect only outside the POSIX locale

-t   sort by modification time, newest first

-T, --tabsize=COLS
       assume tab stops at each COLS instead of 8

-u   with -lt: sort by, and show, access time; with -l: show access time and sort by name; otherwise: sort by access time, newest
         first

-U   do not sort; list entries in directory order
-v   natural sort of (version) numbers within text

-w, --width=COLS
       set output width to COLS. 0 means no limit

-x   list entries by lines instead of by columns
-X   sort alphabetically by entry extension

-Z, --context
       print any security context of each file

-1   list one file per line. Avoid '\n' with -q or -b

--help display this help and exit

--version
       output version information and exit

     The SIZE argument is an integer and optional unit (example: 10K is 10*1024). Units are K,M,G,T,P,E,Z,Y (powers of 1024) or
     KB,MB,... (powers of 1000).

      Using color to distinguish file types is disabled both by default and with --color=never. With --color=auto, ls emits color codes
     only when standard output is connected to a terminal. The LS_COLORS environment variable can change the settings. Use the dircol-
     ors command to set it.

  Exit status:
     0   if OK,

     1   if minor problems (e.g., cannot access subdirectory),

     2   if serious trouble (e.g., cannot access command-line argument).

AUTHOR
    Written by Richard M. Stallman and David MacKenzie.

REPORTING BUGS
    GNU coreutils online help: <http://www.gnu.org/software/coreutils/>
    Report ls translation bugs to <http://translationproject.org/team/>
COPYRIGHT
    Copyright © 2016 Free Software Foundation, Inc. License GPLv3+: GNU GPL version 3 or
later <http://gnu.org/licenses/gpl.html>.
    This is free software: you are free to change and redistribute it. There is NO WARRANTY, to
the extent permitted by law.

SEE ALSO
    Full documentation at: <http://www.gnu.org/software/coreutils/ls>
    or available locally via: info '(coreutils) ls invocation'

GNU coreutils 8.25   February 2016

root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# history
    1 useradd prachi
    2 userdel prachi
    3 adduser prachi
    4 service postgreql start
    5 service postgresql start
    6 init 0
    7 adduser pranil
    8 useradd pranil
    9 passwd pranil
   10 sudo su pranil
   11 deluse pranil
   12 deluser pranil
   13 deluser
   14 clear
   15 sudo su -
   16 deluser
   17 init 0
   18 adduser Aniesha
   19 useradd Aniesha
   20 useradd aniesha
   21 useradd anieshar
   22 adduser anieshar
   23 adduser aniesha
   24 password Aniesha
   25 password aniesha
   26 passwd Aniesha

```
27  userdel aniesha
28  userdel anieshar
29  userdel Aniesha
30  cd desktop
31  cd Desktop
32  mkdir Aniesha
33  ls
34  ls -a
35  ls -i
36  ls -l
37  touch Aniesha.txt
38  ls -l
39  gedit Aniesha.txt
40  cat Aniesha.txt
41  ps
42  date
43  date +%d
44  date +%m
45  date +%y
46  date +%D
47  date +%M
48  date +%Y
49  date +%M
50  date +%H
51  date +%h
52  date +%S
53  date +%s
54  time
55  cal
56  cal -h
57  ncal
58  cal -3
59  cal 2018
60  cal -j
61  cal -j 2018
62  cal -w
63  mv Aniesha.txt ani.txt
64  gedit ani.txt
65  head -f ani.txt
66  head -5 ani.txt
67  tail -5 ani.txt
68  more ani.txt
69  less ani.txt
70  touch anie.txt
71  cp ani.txt anie.txt
72  cat anie.txt
```

```
 73  man ls
 74  history
 75  who
 76  whoami
 77  echo
 78  echo "string"
 79  echo "Hi"
 80  rmdir Aniesha
 81  rm ani.txt
 82  rm anie.txt
 83  cd ..
 84  poweroff
 85  chmod 777 seit39
 86  ls -l
 87  chmod 777 Pictures
 88  ls -l
 89  ls -h
 90  ls -o
 91  ls -d
 92  ls -h
 93  ls -s
 94  ls -st
 95  ls -ST
 96  ls -lst
 97  ls -hsl
 98  ls -hslc
 99  ls -rlt
100  ls -R
101  ls -%A
102  DATE +%D
103  date +%D
104  date +%U
105  cal -j 2018
106  cal -B2 -A3
107  man ps
108  pstree ict30
109  time +%T
110  date +%T
111  reboot
112  useradd Shubham
113  finger
114  user
115  apt install finger
116  finger
117  adduser ict457
118  cat /etc/passwd
```

```
119  addgroup scs
120  addgroup shubham scs
121  addgroup Shubham scs
122  delgroup Shubham scs
123  cat /etc/shodow
124  cat /etc/shadow
125  init 0
126  adduser MayuriBE
127  adduser mayuriBE
128  adduser mayuriBE54
129  adduser mayuri54
130  cat /etc/passwd
131  addgroup CSM
132  addgroup csm
133  adduser pranil
134  cat /etc/password
135  cat /etc/passwd
136  addgroup jigzz
137  gpasswd
138  gpasswd jigzz
139  cat /etc/group
140  cat /etc/gshadow
141  cat /etc/shadow
142  cat > hello
143  cat>hello
144  cat>hi
145  cat hello hi
146  vi
147  wc hello
148  wc -l hello
149  wc -w hello
150  wc -c hello
151  history
152  head hello
153  tail hello
154  vi
155  vi hello
156  poweroff
157  cd Desktop
158  mkdir Pascal
159  ls
160  ls -a
161  ls -i
162  ls -l
163  touch xyz.txt
164  gedit xyz.txt
```

```
165  cat xyz.txt
166  gedit xyz.txt
167  cat xyz.txt
168  ps
169  date
170  date +%d
171  date +%m
172  date +%y
173  date +%D
174  date +%Y
175  date +%M
176  date +%h
177  date +%H
178  date +%s
179  date +%S
180  time

181  cal
182  cal -h
183  ncal
184  cal -3
185  cal 2018
186  cal -j
187  cal -j 2018
188  cal -w
189  mv xyz.txt pqr.txt
190  gedit pqr.txt
191  head -5 pqr.txt
192  tail -5 pqr.txt
193  more
194  more pqr.txt
195  less pqr.txt
196  man ls
197  history
```

```
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# ls -l
total 276
drwxrwxr-x 2 ict30 ict30  4096 Jan 17 15:30 827
-rw-rw-r-- 1 ict30 ict30    33 Jan 16 11:44 abc
-rw-rw-r-- 1 ict30 ict30  1466 Jan 15 09:16 diffie.class
-rw-rw-r-- 1 ict30 ict30   951 Jan 15 09:15 diffie.java
```

```
-rw-r--r-- 1 ict30 ict30 82031 Jan  8 20:25 exptno1.docx
-rw-r--r-- 1 ict30 ict30 71167 Jan 15 14:47 exptno2.docx
-rw-rw-r-- 1 ict30 ict30 77817 Jan 15 09:29 exptno2.odt
drwxrwxrwx 2 ict30 ict30  4096 Jan  9 11:29 hello
-rw-rw-r-- 1 ict30 ict30    46 Jan  9 11:29 hello1
-rw-rw-r-- 1 ict30 ict30    46 Jan  9 11:27 hello1.txt
-rw-rw-r-- 1 ict30 ict30    46 Jan  9 11:27 pranil
-rw-rw-r-- 1 ict30 ict30    53 Jan 10 10:53 pranil2.java
-rwxrwxrwx 1 ict30 ict30    53 Jan 10 10:51 pranil.java
-rw-rw-r-- 1 ict30 ict30   438 Jan 15 09:42 number.cpp


root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# chmod 777 hello1.txt


root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# ls -l
total 276
drwxrwxr-x 2 ict30 ict30  4096 Jan 17 15:30 827
-rw-rw-r-- 1 ict30 ict30    33 Jan 16 11:44 abc
-rw-rw-r-- 1 ict30 ict30  1466 Jan 15 09:16 diffie.class
-rw-rw-r-- 1 ict30 ict30   951 Jan 15 09:15 diffie.java
-rw-r--r-- 1 ict30 ict30 82031 Jan  8 20:25 exptno1.docx
-rw-r--r-- 1 ict30 ict30 71167 Jan 15 14:47 exptno2.docx
-rw-rw-r-- 1 ict30 ict30 77817 Jan 15 09:29 exptno2.odt
drwxrwxrwx 2 ict30 ict30  4096 Jan  9 11:29 hello
-rw-rw-r-- 1 ict30 ict30    46 Jan  9 11:29 hello1
-rwxrwxrwx 1 ict30 ict30    46 Jan  9 11:27 hello1.txt
-rw-rw-r-- 1 ict30 ict30    46 Jan  9 11:27 pranil
-rw-rw-r-- 1 ict30 ict30    53 Jan 10 10:53 pranil2.java
-rwxrwxrwx 1 ict30 ict30    53 Jan 10 10:51 pranil.java
-rw-rw-r-- 1 ict30 ict30   438 Jan 15 09:42 number.cpp


root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# chown pranil  abc
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# chown pranil  diffie.class
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# chgrp root hello1.txt
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# bc
bc 1.06.95
```

```
2+3
5
5/3
```

```
1
scale=2
5/3
1.66
^Z
[1]+  Stopped                 bc
```

root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# who
ict30   tty7   2018-01-18 10:33 (:0)

root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# whoami
root
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# echo "hello"
hello

root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# rmdir Pascal
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# rm pqr.txt
root@ict30-ThinkCentre-M71e:/home/ict30/Desktop# cd ..

OUTCOME: The study of basic user commands in UNIX has helped us learn about various commands and their use in detail to work on such an OS.

CONCLUSION: We successfully studied the basic user commands in UNIX on our machine.