OS Lab Assignment - 1

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CLASS : AI-C BATCH : B2

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General Purpose Commands

1. date: To display current date & time of the system.

```
rushi@rushi-81MV:~$ date
Fri Feb  2 12:00:29 AM IST 2024
rushi@rushi-81MV:~$ date -u
Thu Feb  1 06:30:31 PM UTC 2024
rushi@rushi-81MV:~$ date --version
date (GNU coreutils) 9.1
Copyright (C) 2022 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <https://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.

Written by David MacKenzie.
```

2. cal :To display calendar of current month.

```
rushi@rushi-81MV:~$ cal
   February 2024
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

rushi@rushi-81MV:~$ cal -j
       February 2024
 Su  Mo  Tu  We  Th  Fr  Sa
                 32  33  34
 35  36  37  38  39  40  41
 42  43  44  45  46  47  48
 49  50  51  52  53  54  55
 56  57  58  59  60

rushi@rushi-81MV:~$ cal -y
                              2024
      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
 7  8  9 10 11 12 13   4  5  6  7  8  9 10   3  4  5  6  7  8  9
14 15 16 17 18 19 20  11 12 13 14 15 16 17  10 11 12 13 14 15 16
21 22 23 24 25 26 27  18 19 20 21 22 23 24  17 18 19 20 21 22 23
28 29 30 31           25 26 27 28 29        24 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                 1  2  3  4                    1
 7  8  9 10 11 12 13   5  6  7  8  9 10 11   2  3  4  5  6  7  8
14 15 16 17 18 19 20  12 13 14 15 16 17 18   9 10 11 12 13 14 15
21 22 23 24 25 26 27  19 20 21 22 23 24 25  16 17 18 19 20 21 22
28 29 30              26 27 28 29 30 31     23 24 25 26 27 28 29
                                            30
```

3. who:List who is currently logged on to the system.

```
rushi@rushi-81MV:~$ who
rushi    seat0        2024-02-01 23:26 (login screen)
rushi    tty2         2024-02-01 23:26 (tty2)
rushi@rushi-81MV:~$ who -a
           system boot  2024-02-01 23:26
           run-level 5  2024-02-01 23:26
rushi    ? seat0        2024-02-01 23:26   ?          1669 (login screen)
rushi    + tty2         2024-02-01 23:26 00:37        1669 (tty2)
           pts/1        2024-02-01 18:42             13946 id=ts/1  term=0 exit=0
rushi@rushi-81MV:~$ who -b
         system boot  2024-02-01 23:26
rushi@rushi-81MV:~$ who -d
         pts/1        2024-02-01 18:42             13946 id=ts/1  term=0 exit=0
rushi@rushi-81MV:~$ who -H
NAME     LINE         TIME             COMMENT
rushi    seat0        2024-02-01 23:26 (login screen)
rushi    tty2         2024-02-01 23:26 (tty2)
rushi@rushi-81MV:~$
```

4. Whoami:Report what user you are logged on as.

```
rushi@rushi-81MV:~$ whoami
rushi
```

5. echo :Echo a string (or list of arguments) to the terminal

```
rushi@rushi-81MV:~$ echo "Hello"
Hello
```

6. bc:To perform mathematical operations

```
rushi@rushi-81MV:~$ bc
bc 1.07.1
Copyright 1991-1994, 1997, 1998, 2000, 2004, 2006,
 Foundation, Inc.
This is free software with ABSOLUTELY NO WARRANTY.
For details type `warranty'.
2+5
7
```

7. man <cmd name>: To get help for any command

For : “man date” command

```
DATE(1)                          User Commands                          DATE(1)

NAME
       date - print or set the system date and time

SYNOPSIS
       date [OPTION]... [+FORMAT]
       date [-u|--utc|--universal] [MMDDhhmm[[CC]YY][.ss]]

DESCRIPTION
       Display  date  and  time  in  the given FORMAT.  With -s, or with [MMD-
       Dhhmm[[CC]YY][.ss]], set the date and time.

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

       -d, --date=STRING
              display time described by STRING, not 'now'

       --debug
              annotate  the  parsed date, and warn about questionable usage to
              stderr
```

8. passwd: To change the password

```
rushi@rushi-81MV:~$ passwd
Changing password for rushi.
Current password: _
```

9. exit: To logout from the terminal

```
rushi@rushi-81MV:~$ exit
exit
There are stopped jobs.
rushi@rushi-81MV:~$
```

File & Directory related commands.

1. cp <fromfile> <tofile>: Copy from the <fromfile> to the <tofile>

```
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ cp -i a.txt b.txt
cp: overwrite 'b.txt'? Y
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ cp -b a.txt b.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ ls
a.txt  b.txt  b.txt~
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ cp -p a.txt c.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ ls
a.txt  b.txt  b.txt~  c.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ cat c.txt
hello there
Rushikesh
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ _
```

```
rushi@rushi-81MV:~/VIT/OS$ cp -R ~/VIT/OS/dir/ ~/VIT/OS/dir2/
rushi@rushi-81MV:~/VIT/OS$ cd dir2
rushi@rushi-81MV:~/VIT/OS/dir2$ ls
dir
rushi@rushi-81MV:~/VIT/OS/dir2$ cd dir/
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ ls
a.txt  b.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ _
```

```
rushi@rushi-81MV:~/VIT/OS$ cat > a.txt
hello there
Rushikesh
rushi@rushi-81MV:~/VIT/OS$ cp a.txt b.txt
rushi@rushi-81MV:~/VIT/OS$ cat b.txt
hello there
Rushikesh
rushi@rushi-81MV:~/VIT/OS$ mkdir dir
rushi@rushi-81MV:~/VIT/OS$ cp a.txt b.txt dir/
rushi@rushi-81MV:~/VIT/OS$ cd dir
rushi@rushi-81MV:~/VIT/OS/dir$ ls
a.txt  b.txt
```

2. mv <fromfile> <tofile> : Move/rename the <fromfile> to the <tofile>

```
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ mv a.txt c.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ ls
b.txt  c.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ mkdir 1
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ mv b.txt ~/VIT/OS/dir2/dir/1/
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ ls
1  c.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ cp c.txt d.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ mv c.txt d.txt ~/VIT/OS/dir2/dir/1/
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ ls
1
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ cd 1
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls
b.txt  c.txt  d.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$
```

3. rm <file>:Remove the file named <file>

```
rushi@rushi-81MV:~/VIT/OS$ sudo mkdir 3
[sudo] password for rushi:
rushi@rushi-81MV:~/VIT/OS$ ls
1.txt  2.txt  3  first  OS2
rushi@rushi-81MV:~/VIT/OS$ rm 1.txt
rushi@rushi-81MV:~/VIT/OS$ ls
2.txt  3  first  OS2
rushi@rushi-81MV:~/VIT/OS$ rm -d OS2/
rushi@rushi-81MV:~/VIT/OS$ ls
2.txt  3  first
rushi@rushi-81MV:~/VIT/OS$ rm -r -v first
removed directory 'first/second/third'
removed directory 'first/second'
removed directory 'first'
rushi@rushi-81MV:~/VIT/OS$ ls
2.txt  3
rushi@rushi-81MV:~/VIT/OS$ rm -i 2.txt
rm: remove regular empty file '2.txt'? Y
rushi@rushi-81MV:~/VIT/OS$ ls
3
rushi@rushi-81MV:~/VIT/OS$ rm -d 3
rm: remove write-protected directory '3'? Y
rushi@rushi-81MV:~/VIT/OS$ ls
rushi@rushi-81MV:~/VIT/OS$ _
```

4. mkdir <newdir>:Make a new directory called <newdir>

```
rushi@rushi-81MV:~/VIT/OS$ mkdir AS1
rushi@rushi-81MV:~/VIT/OS$ ls
AS1
rushi@rushi-81MV:~/VIT/OS$ mkdir -v OS1 OS2
mkdir: created directory 'OS1'
mkdir: created directory 'OS2'
rushi@rushi-81MV:~/VIT/OS$ ls
AS1  OS1  OS2
rushi@rushi-81MV:~/VIT/OS$ mkdir -p -v first/second/third
mkdir: created directory 'first'
mkdir: created directory 'first/second'
mkdir: created directory 'first/second/third'
rushi@rushi-81MV:~/VIT/OS$ ls
AS1  first  OS1  OS2
rushi@rushi-81MV:~/VIT/OS$ mkdir -m a=rwx first
mkdir: cannot create directory ‘first’: File exists
rushi@rushi-81MV:~/VIT/OS$ mkdir -m a=rwx fourth
rushi@rushi-81MV:~/VIT/OS$ ls
AS1  first  fourth  OS1  OS2
```

5. rmdir <dir>:Remove an (empty) directory

```
rushi@rushi-81MV:~/VIT/OS$ rmdir fourth
rushi@rushi-81MV:~/VIT/OS$ ls
AS1  first  OS1  OS2
rushi@rushi-81MV:~/VIT/OS$ rmdir -p first/second/third
rushi@rushi-81MV:~/VIT/OS$ ls
AS1  OS1  OS2
rushi@rushi-81MV:~/VIT/OS$ rmdir -v OS1
rmdir: removing directory, 'OS1'
rushi@rushi-81MV:~/VIT/OS$ ls
AS1  OS2
rushi@rushi-81MV:~/VIT/OS$ _
```

6. cd <dir> :Change the current working directory to dir

```
rushi@rushi-81MV:~/VIT/OS$ cd AS1/
rushi@rushi-81MV:~/VIT/OS/AS1$ _
```

7. pwd : Print (display) the working directory

```
rushi@rushi-81MV:~/VIT/OS$ pwd
/home/rushi/VIT/OS
rushi@rushi-81MV:~/VIT/OS$ pwd -P
/home/rushi/VIT/OS
rushi@rushi-81MV:~/VIT/OS$ pwd -L
/home/rushi/VIT/OS
rushi@rushi-81MV:~/VIT/OS$ echo $PWD
/home/rushi/VIT/OS
rushi@rushi-81MV:~/VIT/OS$ _
```

8. cat > <file> :To create new file n save it by pressing ^d
9. cat >> <file>: To append contents into file
10. cat <file>:To see the contents of existing file

```
rushi@rushi-81MV:~/VIT/OS$ cat > test
hello there
rushi@rushi-81MV:~/VIT/OS$ cat >> test
Rushikesh
rushi@rushi-81MV:~/VIT/OS$ cat test
hello there
Rushikesh
rushi@rushi-81MV:~/VIT/OS$ cat -n test
     1  hello there
     2  Rushikesh
rushi@rushi-81MV:~/VIT/OS$ cat -E test
hello there$
Rushikesh$
rushi@rushi-81MV:~/VIT/OS$ cat -v test
hello there
Rushikesh
rushi@rushi-81MV:~/VIT/OS$ cat -A test
hello there$
Rushikesh$
rushi@rushi-81MV:~/VIT/OS$ cat -vET test
hello there$
Rushikesh$
rushi@rushi-81MV:~/VIT/OS$
```

11. more <file>:Paging out the contents of file - (-d, -l, -e, -f, -p)

```
rushi@rushi-81MV: ~/V...
hello there
Rushikesh
(END)
```

```
rushi@rushi-81MV: ~/V...
Rushikesh

--More--
(END)
```

```
rushi@rushi-81MV: ~/V...
hello there
Rushikesh

(END)
```

```
rushi@rushi-81MV: ~/V...
hello there
Rushikesh

(END)[Press space to continue, 'q' to quit.]
```

```
rushi@rushi-81MV: ~/V...
hello there
Rushikesh

(END)
```

12. file <file>:To check the type of file

```
rushi@rushi-81MV:~/VIT/OS$ file test
test: ASCII text
rushi@rushi-81MV:~/VIT/OS$ file *
dir:        directory
test:       ASCII text
test2.txt: empty
rushi@rushi-81MV:~/VIT/OS$ file dir/*
dir/test3.txt: empty
rushi@rushi-81MV:~/VIT/OS$ file[a-z]*
bash: file[a-z]*: command not found
rushi@rushi-81MV:~/VIT/OS$ file [a-z]*
dir:        directory
test:       ASCII text
test2.txt: empty
rushi@rushi-81MV:~/VIT/OS$
```

13. wc <file>:To count lines,words,characters of file

```
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ wc b.txt
 6  7 50 b.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ wc -c b.txt
50 b.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ wc -m b.txt
50 b.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ wc -l b.txt
6 b.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ wc -w b.txt
7 b.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ wc -L b.txt
11 b.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ _
```

14. cmp <file1> <file2>:To compare two files

```
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ cmp b.txt c.txt
cmp: EOF on c.txt after byte 12, line 1
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ cmp -b b.txt c.txt
cmp: EOF on c.txt after byte 12, line 1
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ cmp -l b.txt c.txt
cmp: EOF on c.txt after byte 12
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ cmp -v b.txt c.txt
cmp (GNU diffutils) 3.8
Copyright (C) 2021 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <https://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.

Written by Torbjörn Granlund and David MacKenzie.
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ cmp -s b.txt c.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ _
```

15. comm <file1> <file2>:To display common values between two files

```
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ comm b.txt c.txt
                hello there
Rushikesh
comm: file 1 is not in sorted order
here
VIT
Pune
Maharashtra
comm: input is not in sorted order
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ comm -1  b.txt c.txt
        hello there
comm: file 1 is not in sorted order
comm: input is not in sorted order
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ comm -23 <(sort b.txt) <(sort c.txt)
here
Maharashtra
Pune
Rushikesh
VIT
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ comm -1 <(sort b.txt) <(sort c.txt)
        hello there
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ comm -2 <(sort b.txt) <(sort c.txt)
        hello there
here
Maharashtra
Pune
Rushikesh
VIT
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ comm -3 <(sort b.txt) <(sort c.txt)
here
Maharashtra
Pune
Rushikesh
VIT
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$
```

16. gzip <file>:To compress the file

```
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls
a.txt  b.txt  c.txt  d.txt  e.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ gzip a.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls
a.txt.gz  b.txt  c.txt  d.txt  e.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ gzip -a b.txt
gzip: option --ascii ignored on this system
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ gzip -d a.txt.gz
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls
a.txt  b.txt.gz  c.txt  d.txt  e.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ gzip -k a.txt.gz
gzip: a.txt.gz: No such file or directory
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ gzip -k c.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls
a.txt  b.txt.gz  c.txt  c.txt.gz  d.txt  e.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ gzip -l d.txt

gzip: d.txt: not in gzip format
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ gzip -l c.txt.gz
         compressed        uncompressed  ratio uncompressed_name
                 38                  12 -16.7% c.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ _
```

17. diff <file1> <file2>:To convert one file to another

```
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ diff b.txt c.txt
2,6d1
< Rushikesh
< here
< VIT
< Pune
< Maharashtra
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ diff -q b.txt c.txt
Files b.txt and c.txt differ
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ diff -s b.txt c.txt
2,6d1
< Rushikesh
< here
< VIT
< Pune
< Maharashtra
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ diff -c b.txt c.txt
*** b.txt       2024-02-01 22:51:25.397958267 +0530
--- c.txt       2024-02-01 20:00:06.301095168 +0530
***************
*** 1,6 ****
  hello there
- Rushikesh
- here
- VIT
- Pune
- Maharashtra
--- 1 ----
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ diff -u b.txt c.txt
--- b.txt       2024-02-01 22:51:25.397958267 +0530
+++ c.txt       2024-02-01 20:00:06.301095168 +0530
@@ -1,6 +1 @@
 hello there
-Rushikesh
-here
-VIT
-Pune
-Maharashtra
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$
```

18. gunzip <file>:To unzip the contents of zipped file

```
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ gunzip a.txt.gz
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls
a.txt  b.txt.gz  c.txt.gz  d.txt.gz  e.txt.gz
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ gunzip -a b.txt.gz
gzip: option --ascii ignored on this system
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls
a.txt  b.txt  c.txt.gz  d.txt.gz  e.txt.gz
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ gunzip -c c.txt.gz
hello there
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls
a.txt  b.txt  c.txt.gz  d.txt.gz  e.txt.gz
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ gunzip -d d.txt.gz
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls
a.txt  b.txt  c.txt.gz  d.txt  e.txt.gz
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ gunzip -k e.txt.gz
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls
a.txt  b.txt  c.txt.gz  d.txt  e.txt  e.txt.gz
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ gunzip *
gzip: a.txt: unknown suffix -- ignored
gzip: b.txt: unknown suffix -- ignored
gzip: d.txt: unknown suffix -- ignored
gzip: e.txt: unknown suffix -- ignored
gzip: e.txt already exists; do you wish to overwrite (y or n)? y
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls
a.txt  b.txt  c.txt  d.txt  e.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ _
```

19. ls :List the files in the current working directory

```
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls
a.txt  b.txt  c.txt  d.txt  e.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls -a
.  ..  a.txt  b.txt  c.txt  d.txt  e.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls -A
a.txt  b.txt  c.txt  d.txt  e.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls --author -l
total 20
-rw-rw-r-- 1 rushi rushi rushi 50 Feb  1 23:20 a.txt
-rw-rw-r-- 1 rushi rushi rushi 50 Feb  1 22:51 b.txt
-rw-rw-r-- 1 rushi rushi rushi 12 Feb  1 20:00 c.txt
-rw-rw-r-- 1 rushi rushi rushi 50 Feb  1 23:20 d.txt
-rw-rw-r-- 1 rushi rushi rushi 50 Feb  1 23:20 e.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls -b
a.txt  b.txt  c.txt  d.txt  e.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls -c
e.txt  c.txt  d.txt  b.txt  a.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$
```

20. ls <dir>:List all files & directories in given directory

```
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ ls 1
a.txt  b.txt  c.txt  d.txt  e.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ ls -a 1
.  ..  a.txt  b.txt  c.txt  d.txt  e.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ ls -A 1
a.txt  b.txt  c.txt  d.txt  e.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ ls --author -l 1
total 20
-rw-rw-r-- 1 rushi rushi rushi 50 Feb  1 23:20 a.txt
-rw-rw-r-- 1 rushi rushi rushi 50 Feb  1 22:51 b.txt
-rw-rw-r-- 1 rushi rushi rushi 12 Feb  1 20:00 c.txt
-rw-rw-r-- 1 rushi rushi rushi 50 Feb  1 23:20 d.txt
-rw-rw-r-- 1 rushi rushi rushi 50 Feb  1 23:20 e.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ ls -b 1
a.txt  b.txt  c.txt  d.txt  e.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir$ _
```

21. ln <fromfile><tofile>: Creates a symbolic link to a file

```
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ln a.txt  b.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ln -b a.txt  c.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls
a.txt  b.txt  c.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ln -i a.txt  d.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls
a.txt  b.txt  c.txt  d.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ln -L a.txt  e.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls
a.txt  b.txt  c.txt  d.txt  e.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ln -n a.txt  f.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ ls
a.txt  b.txt  c.txt  d.txt  e.txt  f.txt
rushi@rushi-81MV:~/VIT/OS/dir2/dir/1$ _
```