

1. List the directory contents date wise sorted. (man ls)

```
shubham@D3-Shubham-92819:/$ ls -t -l -r
total 4194396
drwxr-xr-x  2 root root      4096 Jan  1  1970 cdrom
drwxr-xr-x  2 root root      4096 Feb 26  2024 bin.usr-is-merged
drwxr-xr-x  2 root root      4096 Mar 31  2024 sbin.usr-is-merged
drwxr-xr-x  2 root root      4096 Apr  8  2024 lib.usr-is-merged
lrwxrwxrwx  1 root root         8 Apr 22  2024 sbin -> usr/sbin
lrwxrwxrwx  1 root root         9 Apr 22  2024 lib64 -> usr/lib64
lrwxrwxrwx  1 root root         7 Apr 22  2024 lib -> usr/lib
lrwxrwxrwx  1 root root         7 Apr 22  2024 bin -> usr/bin
drwxr-xr-x 12 root root      4096 Aug  5 22:18 usr
drwxr-xr-x  2 root root      4096 Aug  5 22:18 srv
drwxr-xr-x  2 root root      4096 Aug  5 22:18 mnt
drwxr-xr-x  4 root root      4096 Oct 25 15:50 boot
drwxr-xr-x 16 root root      4096 Oct 25 17:12 snap
drwxr-xr-x  3 root root      4096 Oct 25 17:14 opt
drwxr-xr-x  3 root root      4096 Oct 25 17:14 media
dr-xr-xr-x 333 root root         0 Oct 25 18:28 proc
drwxr-xr-x 140 root root     12288 Oct 25 18:30 etc
drwxr-xr-x  36 root root       880 Oct 25 18:31 run
drwx-----  2 root root     16384 Oct 25 20:29 lost+found
-rw-----  1 root root 4294967296 Oct 25 20:32 swap.img
drwxr-xr-x 14 root root      4096 Oct 25 20:34 var
drwxr-xr-x  3 root root      4096 Oct 25 20:34 home
drwx-----  5 root root      4096 Oct 25 20:34 root
drwxr-xr-x 20 root root      4660 Oct 25 23:17 dev
dr-xr-xr-x 13 root root         0 Oct 25 23:27 sys
drwxrwxrwt 20 root root      4096 Oct 25 23:52 tmp
shubham@D3-Shubham-92819:/$
```

2. List the directory contents size wise sorted.(man ls)

```

shubham@D3-Shubham-92819:/$ ls -l -S
total 4194396
-rw----- 1 root root 4294967296 Oct 25 20:32 swap.img
drwx----- 2 root root 16384 Oct 25 20:29 lost+found
drwxr-xr-x 140 root root 12288 Oct 25 18:30 etc
drwxr-xr-x 20 root root 4680 Oct 26 00:01 dev
drwxr-xr-x 2 root root 4096 Feb 26 2024 bin.usr-is-merged
drwxr-xr-x 4 root root 4096 Oct 25 15:50 boot
drwxr-xr-x 2 root root 4096 Jan 1 1970 cdrom
drwxr-xr-x 3 root root 4096 Oct 25 20:34 home
drwxr-xr-x 2 root root 4096 Apr 8 2024 lib.usr-is-merged
drwxr-xr-x 3 root root 4096 Oct 25 17:14 media
drwxr-xr-x 2 root root 4096 Aug 5 22:18 mnt
drwxr-xr-x 3 root root 4096 Oct 25 17:14 opt
drwx----- 5 root root 4096 Oct 25 20:34 root
drwxr-xr-x 2 root root 4096 Mar 31 2024 sbin.usr-is-merged
drwxr-xr-x 16 root root 4096 Oct 25 17:12 snap
drwxr-xr-x 2 root root 4096 Aug 5 22:18 srv
drwxrwxrwt 20 root root 4096 Oct 26 00:00 tmp
drwxr-xr-x 12 root root 4096 Aug 5 22:18 usr
drwxr-xr-x 14 root root 4096 Oct 25 20:34 var
drwxr-xr-x 36 root root 880 Oct 25 18:31 run
lrwxrwxrwx 1 root root 9 Apr 22 2024 lib64 -> usr/lib64
lrwxrwxrwx 1 root root 8 Apr 22 2024 sbin -> usr/sbin
lrwxrwxrwx 1 root root 7 Apr 22 2024 bin -> usr/bin
lrwxrwxrwx 1 root root 7 Apr 22 2024 lib -> usr/lib
dr-xr-xr-x 342 root root 0 Oct 25 18:28 proc
dr-xr-xr-x 13 root root 0 Oct 25 23:27 sys
shubham@D3-Shubham-92819:/$

```

3. List directory contents along with their inode no. (man ll)

```

shubham@D3-Shubham-92819:/$ ls -l -i
total 4194396
 12 lrwxrwxrwx    1 root root          7 Apr 22  2024 bin -> usr/bin
1310721 drwxr-xr-x    2 root root       4096 Feb 26  2024 bin.usr-is-merged
1572865 drwxr-xr-x    4 root root       4096 Oct 25 15:50 boot
 786433 drwxr-xr-x    2 root root       4096 Jan  1  1970 cdrom
   1 drwxr-xr-x   20 root root       4680 Oct 26 00:01 dev
3670017 drwxr-xr-x  140 root root      12288 Oct 25 18:30 etc
1048577 drwxr-xr-x    3 root root       4096 Oct 25 20:34 home
  13 lrwxrwxrwx    1 root root          7 Apr 22  2024 lib -> usr/lib
  14 lrwxrwxrwx    1 root root          9 Apr 22  2024 lib64 -> usr/lib64
3932161 drwxr-xr-x    2 root root       4096 Apr  8  2024 lib.usr-is-merged
  11 drwx-----    2 root root      16384 Oct 25 20:29 lost+found
3407873 drwxr-xr-x    3 root root       4096 Oct 25 17:14 media
 131073 drwxr-xr-x    2 root root       4096 Aug  5 22:18 mnt
3276801 drwxr-xr-x    3 root root       4096 Oct 25 17:14 opt
   1 dr-xr-xr-x  343 root root          0 Oct 25 18:28 proc
1703937 drwx-----    5 root root       4096 Oct 25 20:34 root
   1 drwxr-xr-x   36 root root        880 Oct 25 18:31 run
  15 lrwxrwxrwx    1 root root          8 Apr 22  2024 sbin -> usr/sbin
4325377 drwxr-xr-x    2 root root       4096 Mar 31  2024 sbin.usr-is-merged
6029313 drwxr-xr-x   16 root root       4096 Oct 25 17:12 snap
 262145 drwxr-xr-x    2 root root       4096 Aug  5 22:18 srv
  16 -rw-----    1 root root 4294967296 Oct 25 20:32 swap.img
   1 dr-xr-xr-x   13 root root          0 Oct 25 23:27 sys
 524289 drwxrwxrwt   20 root root       4096 Oct 26 00:02 tmp
 655361 drwxr-xr-x   12 root root       4096 Aug  5 22:18 usr
2097153 drwxr-xr-x   14 root root       4096 Oct 25 20:34 var
shubham@D3-Shubham-92819:/$

```

4. List the contents of the subdirectory.

```

shubham@D3-Shubham-92819:~$ ls
Desktop Documents Downloads Music Pictures Public snap Templates Videos
shubham@D3-Shubham-92819:~$ ls Downloads/
firmware firmware.zip google-chrome-stable_current_amd64.deb OS rtl8821CU rtl8821CU-master rtl8821CU-master.zip
shubham@D3-Shubham-92819:~$

```

5. Create a file, write your surname and name in it and save.

i. now open the same file and add your address in it and save.

```

shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ touch file2.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ ls
file1.txt file2.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ cat > file
file1.txt file2.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ cat > file2.txt
Shubham Shinde
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ cat file2.txt
Shubham Shinde
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$

```

```
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ cat file2.txt
Shubham Shinde
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ cat >> file2.txt
Dhanalakshimi Near Rajbhavan Vidyanagar, Phaltan
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ cat file2.txt
Shubham Shinde
Dhanalakshimi Near Rajbhavan Vidyanagar, Phaltan
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$
```

ii. reopen the same file and check your name and address in it.

```
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ cat file2.txt
Shubham Shinde
Dhanalakshimi Near Rajbhavan Vidyanagar, Phaltan
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$
```

6. how to change the time stamp of file (man touch)

```
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ ls -l
total 8
-rw-rw-r-- 1 shubham shubham 36 Oct 25 23:43 file1.txt
-rw-rw-r-- 1 shubham shubham 64 Oct 26 00:23 file2.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ touch file1.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ ls -l
total 8
-rw-rw-r-- 1 shubham shubham 36 Oct 26 00:26 file1.txt
-rw-rw-r-- 1 shubham shubham 64 Oct 26 00:23 file2.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$
```

```
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ ls -l
total 8
-rw-rw-r-- 1 shubham shubham 36 Oct 25 23:43 file1.txt
-rw-rw-r-- 1 shubham shubham 64 Oct 26 00:23 file2.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ touch file1.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ ls -l
total 8
-rw-rw-r-- 1 shubham shubham 36 Oct 26 00:26 file1.txt
-rw-rw-r-- 1 shubham shubham 64 Oct 26 00:23 file2.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ touch -d "2030-12-25" file1.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ ls -l
total 8
-rw-rw-r-- 1 shubham shubham 36 Dec 25 2030 file1.txt
-rw-rw-r-- 1 shubham shubham 64 Oct 26 00:23 file2.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$
```

7. Create directory structure : Give following commands ,

```

shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ ls
file1.txt  file2.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ ls
file1.txt  file2.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ mkdir one
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ ls
file1.txt  file2.txt  one
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2$ cd one
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one$ ls
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one$ touch 1.txt 11.txt 111.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one$ ls
111.txt  11.txt  1.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one$ mkdir two
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one$ cd two
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two$ touch 2.txt 22.txt 222.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two$ ls
222.txt  22.txt  2.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two$ mkdir three
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two$ cd three
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three$ touch 3.txt 33.txt 333.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three$ ls
333.txt  33.txt  3.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three$ mkdir four
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three$ cd four
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four$ touch 4.txt 44.txt 444.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four$ mkdir five
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four$ cd five
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/five$ touch 5.txt 55.txt 555.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/five$ cd ~
shubham@D3-Shubham-92819:~$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  snap  Templates  Videos

```

8. Considering above directory structure , Do following operations

i. list the directory contents of directory named "five" from current directory (i.e. home directory).

```

shubham@D3-Shubham-92819:~$ ls Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/five
555.txt  55.txt  5.txt
shubham@D3-Shubham-92819:~$

```

ii. write your name in a file named "44.txt" of directory "four" from current directory.

```

shubham@D3-Shubham-92819:~$ cat > Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/44.txt
Shubham Shinde
shubham@D3-Shubham-92819:~$ cat Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/44.txt
Shubham Shinde
shubham@D3-Shubham-92819:~$

```

iii. remove the file named "555.txt" from directory "five" from current directory.

```

shubham@D3-Shubham-92819:~$ rm Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/five/555.txt
shubham@D3-Shubham-92819:~$ ls Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/five
55.txt  5.txt
shubham@D3-Shubham-92819:~$

```

iv. change directory to five

```

shubham@D3-Shubham-92819:~$ cd Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/five/
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/five$

```

v. write your course name in file named "3.txt" which resides in directory "three" from current directory (i.e. five).also read the same file.


```
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/five$ cat > ../../3.txt
DAC
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/five$ cat ../../3.txt
DAC
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/five$
```

vi. list the contents of directory "two" from current directory (i.e. five).

```
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/five$ ls ../.././
222.txt 22.txt 2.txt three
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/five$
```

vii. remove file named "222.txt" which belongs to directory "two" from current directory (i.e. five)

```
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/five$ ls ../.././
222.txt 22.txt 2.txt three
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/five$ rm ../.././222.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/five$ ls ../.././
22.txt 2.txt three
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/five$
```

viii. now change the directory to "one"

```
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/five$ man chdir
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/five$ cd ../.././
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one$
```

ix. remove all files only from directory named "five" from current directory (i.e. one)

```
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one$ rm two/three/four/five/*
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one$ ls two/three/four/five/
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one$
```

x. remove directory named "five" from current directory (i.e. one)

```
rm: cannot remove 'two/three/four/five': Is a directory
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one$ rm -r two/three/four/five
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one$ ls two/three/four
444.txt 44.txt 4.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one$
```

xi. remove whole directory named "four" from current directory (i.e. one)

```
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one$ rm -r two/three/four/five
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one$ ls two/three/four
444.txt 44.txt 4.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one$ rm -r two/three/four
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one$ ls two/three
333.txt 33.txt 3.txt
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one$
```

change to your home directory

```
shubham@D3-Shubham-92819:~/Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/four/five$ cd ~
shubham@D3-Shubham-92819:~$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos
```

9. change the time stamp of file named "3.txt" which resides in directory named "three".(man touch)

```
shubham@D3-Shubham-92819:~$ ls -l Downloads/OS/Assignments/SDM/Assignment-2/one/two/three
total 4
-rw-rw-r-- 1 shubham shubham 0 Oct 26 00:40 333.txt
-rw-rw-r-- 1 shubham shubham 0 Oct 26 00:40 33.txt
-rw-rw-r-- 1 shubham shubham 4 Oct 26 01:04 3.txt
shubham@D3-Shubham-92819:~$ man touch
shubham@D3-Shubham-92819:~$ touch -d "2030-12-25 10:30:00" Downloads/OS/Assignments/SDM/Assignment-2/one/two/three/3.txt
shubham@D3-Shubham-92819:~$ ls -l Downloads/OS/Assignments/SDM/Assignment-2/one/two/three
total 4
-rw-rw-r-- 1 shubham shubham 0 Oct 26 00:40 333.txt
-rw-rw-r-- 1 shubham shubham 0 Oct 26 00:40 33.txt
-rw-rw-r-- 1 shubham shubham 4 Dec 25 2030 3.txt
shubham@D3-Shubham-92819:~$
```