Assignment 3

1. **List hidden files**:

```
osboxes@osboxes:~$ mkdir Assignment3
osboxes@osboxes:~$ cd Assignment3
osboxes@osboxes:~/Assignment3$ touch .demo.txt
osboxes@osboxes:~/Assignment3$ touch demo1.txt
osboxes@osboxes:~/Assignment3$ touch demo2.txt
osboxes@osboxes:~/Assignment3$ touch demo3.txt
osboxes@osboxes:~/Assignment3$ ls
demo1.txt  demo2.txt  demo3.txt
osboxes@osboxes:~/Assignment3$ ls -a
.  ..  demo1.txt  demo2.txt  demo3.txt  .demo.txt
```

2. **Rename all `*.txt` files to `*.htm`**:

```
osboxes@osboxes:~/Assignment3$ rename 's/\.txt$/\.htm/' *.txt
osboxes@osboxes:~/Assignment3$ ls -a
.  ..  demo1.htm  demo2.htm  demo3.htm  .demo.txt
```

3. **Create a symbolic link (shortcut) for a file**:

```
osboxes@osboxes:~/Assignment3$ ln -s demo1.txt link.txt
osboxes@osboxes:~/Assignment3$ ln  demo1.txt link.txt
ln: failed to create hard link 'link.txt': File exists
osboxes@osboxes:~/Assignment3$ ln  demo1.txt hard_link.txt
osboxes@osboxes:~/Assignment3$ ls -a
.  ..  demo1.txt  demo2.txt  demo3.txt  .demo.txt  hard_link.txt  link.txt
osboxes@osboxes:~/Assignment3$
```

4. **Create a hard link for a file**:

```
osboxes@osboxes:~/Assignment3$ ln -s demo1.txt link.txt
osboxes@osboxes:~/Assignment3$ ln  demo1.txt link.txt
ln: failed to create hard link 'link.txt': File exists
osboxes@osboxes:~/Assignment3$ ln  demo1.txt hard_link.txt
osboxes@osboxes:~/Assignment3$ ls -a
.  ..  demo1.txt  demo2.txt  demo3.txt  .demo.txt  hard_link.txt  link.txt
osboxes@osboxes:~/Assignment3$
```

5. **Display the timestamp of a file**:

```
osboxes@osboxes:~/Assignment3$ stat demo3.txt
  File: demo3.txt
  Size: 0               Blocks: 0          IO Block: 4096   regular empty file
Device: 8,2     Inode: 8127324     Links: 1
Access: (0664/-rw-rw-r--)  Uid: ( 1000/ osboxes)   Gid: ( 1000/ osboxes)
Access: 2024-10-09 06:22:39.958004611 -0400
Modify: 2024-10-09 06:22:39.958004611 -0400
Change: 2024-10-09 06:56:53.332934820 -0400
 Birth: 2024-10-09 06:22:39.958004611 -0400
```

6. **Change the timestamp of a file**:

```
osboxes@osboxes:~/Assignment3$ touch -t 202311031211 demo2.txt
osboxes@osboxes:~/Assignment3$ ls -l
total 0
-rw-rw-r-- 2 osboxes osboxes 0 Oct  9 06:22 demo1.txt
-rw-rw-r-- 1 osboxes osboxes 0 Nov  3  2023 demo2.txt
-rw-rw-r-- 1 osboxes osboxes 0 Oct  9 06:22 demo3.txt
-rw-rw-r-- 2 osboxes osboxes 0 Oct  9 06:22 hard_link.txt
lrwxrwxrwx 1 osboxes osboxes 9 Oct  9 06:59 link.txt -> demo1.txt
```

7. **Create an empty file**:

```
osboxes@osboxes:~/Assignment3$ touch demo4.txt
osboxes@osboxes:~/Assignment3$
```

8. **Print all lines in a file from the fifth line onwards**:

```
osboxes@osboxes:~/Assignment3$ touch demo4.txt
osboxes@osboxes:~/Assignment3$ cat > demo4.txt
Hi
My name
is
somesh
I am
from
hyderabad
osboxes@osboxes:~/Assignment3$ tail -n +5 demo4.txt
I am
from
hyderabad
osboxes@osboxes:~/Assignment3$
```

9. **Shutdown (Only for super-user)**:
Init 0

10. **Reboot (Only for super-user)**:
init 6

12. **Find current user**:

```
osboxes@osboxes:~$ whoami
osboxes
```

13. **Find current terminal**:

```
osboxes@osboxes:~$ tty
/dev/pts/0
osboxes@osboxes:~$
```

14. **Find current user and terminal**:

```
osboxes@osboxes:~$ who am i
osboxes@osboxes:~$ who
osboxes  seat0        2024-10-09 08:00 (login screen)
osboxes  tty2         2024-10-09 08:00 (tty2)
osboxes@osboxes:~$
```

15. **Find all users logged into the system**:

```
osboxes@osboxes:~$ users
osboxes osboxes
osboxes@osboxes:~$
```

16. **Find all users logged in and terminals in use**:

```
osboxes@osboxes:~$ who am i
osboxes@osboxes:~$ who
osboxes  seat0        2024-10-09 08:00 (login screen)
osboxes  tty2         2024-10-09 08:00 (tty2)
osboxes@osboxes:~$
```

17. **Find a given word/pattern from a file using `grep`, `egrep`, or `fgrep`**:

```
osboxes@osboxes:~/Assignment3$ cat demo4.txt
Hi
My name
is
somesh
I am
from
hyderabad
osboxes@osboxes:~/Assignment3$ grep am demo4.txt
My name
I am
osboxes@osboxes:~/Assignment3$
```

```
osboxes@osboxes:~/Assignment3$ egrep am demo4.txt
My name
I am
osboxes@osboxes:~/Assignment3$ fgrep am demo4.txt
My name
I am
osboxes@osboxes:~/Assignment3$
```

18. **Make a file read-only**:

```
osboxes@osboxes:~/Assignment3$ chmod 444 demo2.txt
```

19. **Make a file readable, writable, and executable**:

```
osboxes@osboxes:~/Assignment3$ chmod 755 demo1.txt
```

20. **Take input from a file, count words, and store the output in another file**:

```
osboxes@osboxes:~/Assignment3$ wc demo4.txt > demo5.txt
osboxes@osboxes:~/Assignment3$ ls demo5.txt
demo5.txt
osboxes@osboxes:~/Assignment3$ cat demo5.txt
 7  9 43 demo4.txt
osboxes@osboxes:~/Assignment3$
```

21. **Count words in the output of the `who` command using a pipe**:

```
osboxes@osboxes:~/Assignment3$ who | wc -w
11
```

22. **Print lines 5 to 10 from the given file using `head` and `tail` with a pipe**:

```
osboxes@osboxes:~/Assignment3$ cat demo4.txt
Hi
My name
is
somesh
I am
from
hyderabad
I am
 a
software
engineer
my hobbies
are playing
cricket
singing
osboxes@osboxes:~/Assignment3$ head -n 10 demo4.txt | tail -n 6
I am
from
hyderabad
I am
 a
software
```

.23. **Print the unique values from an unsorted file using `sort` and `uniq` with a pipe**:

```
osboxes@osboxes:~/Assignment3$ sort demo4.txt | uniq
 a
are playing
cricket
engineer
from
Hi
hyderabad
I am
I am
is
my hobbies
My name
singing
software
somesh
```

24. **Display all users not using tty2, tty3, tty4 using `who` and `grep` with a pipe**:

```
osboxes@osboxes:~/Assignment3$ who | grep -v -E 'tty2|tty3|tty4'
osboxes  seat0        2024-10-09 08:00 (login screen)
```

25. **Display all files in ascending order of their file size**:

```
osboxes@osboxes:~/Assignment3$ ls -ls | sort -k5n
0 lrwxrwxrwx 1 osboxes osboxes   9 Oct  9 06:59 link.txt -> demo1.txt
0 -r--r--r-- 1 osboxes osboxes   0 Nov  3  2023 demo2.txt
0 -rw-rw-r-- 1 osboxes osboxes   0 Oct  9 06:22 demo3.txt
0 -rwxr-xr-x 2 osboxes osboxes   0 Oct  9 06:22 demo1.txt
0 -rwxr-xr-x 2 osboxes osboxes   0 Oct  9 06:22 hard_link.txt
4 -rw-rw-r-- 1 osboxes osboxes 110 Oct  9 08:18 demo4.txt
4 -rw-rw-r-- 1 osboxes osboxes  19 Oct  9 08:14 demo5.txt
total 8
```

26. **Count the number of files and directories from the current directory using `ls` and `grep` with a pipe**:

```
osboxes@osboxes:~/Assignment3$ ls -la | grep '^\..*'
osboxes@osboxes:~/Assignment3$ ls -la
total 16
drwxrwxr-x  2 osboxes osboxes 4096 Oct  9 08:14 .
drwxr-x--- 22 osboxes osboxes 4096 Oct  9 06:21 ..
-rwxr-xr-x  2 osboxes osboxes    0 Oct  9 06:22 demo1.txt
-r--r--r--  1 osboxes osboxes    0 Nov  3  2023 demo2.txt
-rw-rw-r--  1 osboxes osboxes    0 Oct  9 06:22 demo3.txt
-rw-rw-r--  1 osboxes osboxes  110 Oct  9 08:18 demo4.txt
-rw-rw-r--  1 osboxes osboxes   19 Oct  9 08:14 demo5.txt
-rw-rw-r--  1 osboxes osboxes    0 Oct  9 06:22 .demo.txt
-rwxr-xr-x  2 osboxes osboxes    0 Oct  9 06:22 hard_link.txt
lrwxrwxrwx  1 osboxes osboxes    9 Oct  9 06:59 link.txt -> demo1.txt
```

27. **Display only hidden files in a directory using `ls` and `grep` with a pipe**:

```
osboxes@osboxes:~/Assignment3$ ls -la | grep '^\..*'
osboxes@osboxes:~/Assignment3$
```

28. **Convert file contents to uppercase using `tr` and learn the `-s` option**:

```
osboxes@osboxes:~/Assignment3$ cat demo4.txt | tr '[:lower:]' '[:upper:]'
HI
MY NAME
IS
SOMESH
I AM
FROM
HYDERABAD
I AM
 A
SOFTWARE
ENGINEER
MY HOBBIES
ARE PLAYING
CRICKET
SINGING
```

29. **Split the file contents using a delimiter and print required fields**:

```
osboxes@osboxes:~/Assignment3$ cat demo4.txt | tr -s ' '
Hi
My name
is
somesh
I am
from
hyderabad
I am
 a
software
engineer
my hobbies
are playing
cricket
singing
osboxes@osboxes:~/Assignment3$
```