

1. Change your password to a password you would like to use for the remainder of the semester.

```
$passwd  
admins-iMac-2:~ student$ passwd  
Changing password for student.  
Old Password:  
New Password:  
Retype New Password:
```

2. Display the system's date.

```
$ date
```

```
alhussain@LAPTOP-H00TH0V3:~$ date  
Mon Jan 16 13:51:42 IST 2023
```

3. Count the number of lines in the /etc/passwd file.

```
$wc -l /etc/passwd
```

```
alhussain@LAPTOP-H00TH0V3:~$ wc -l /etc/passwd  
31 /etc/passwd
```

4. Find out who else is on the system.

```
$who
```

```
alhussain@LAPTOP-H00TH0V3:~$ whoami  
alhussain
```

5. Direct the output of the man pages for the date command to a file named mydate.

```
$ date>mydate  
$ cat mydate
```

```
alhussain@LAPTOP-H00TH0V3:~$ date>mydate  
alhussain@LAPTOP-H00TH0V3:~$ cat mydate  
Mon Jan 16 13:52:53 IST 2023  
alhussain@LAPTOP-H00TH0V3:~$
```

6. Create a subdirectory called mydir.

```
$mkdir mydir
```

```
alhussain@LAPTOP-H00TH0V3:~$ mkdir mydir  
alhussain@LAPTOP-H00TH0V3:~$ ls  
mydate mydir
```

7. Move the file mydate into the new subdirectory.

```
$mv mydate mydir  
$cd mydir  
$ls
```

```
alhussain@LAPTOP-H00TH0V3:~$ mv mydate mydir
alhussain@LAPTOP-H00TH0V3:~$ ls
mydir  mydir1
alhussain@LAPTOP-H00TH0V3:~$ cd mydir
alhussain@LAPTOP-H00TH0V3:~/mydir$ ls
mydate
alhussain@LAPTOP-H00TH0V3:~/mydir$
```

8. Go to the subdirectory mydir and copy the file mydate to a new file called ourdate

```
$cd mydir
$cp mydate ourdate
$cat ourdate
```

```
alhussain@LAPTOP-H00TH0V3:~$ cd mydir
alhussain@LAPTOP-H00TH0V3:~/mydir$ cp mydate ourdate
alhussain@LAPTOP-H00TH0V3:~/mydir$ cat ourdate
Mon Jan 16 20:19:13 IST 2023
```

9. List the contents of mydir.

```
$ls
```

```
alhussain@LAPTOP-H00TH0V3:~/mydir$ ls
mydate  ourdate
```

10. Do a long listing on the file ourdate and note the permissions.

```
$ls -l ourdate
```

```
alhussain@LAPTOP-H00TH0V3:~/mydir$ ls -l ourdate
-rw-r--r-- 1 alhussain alhussain 29 Jan 16 20:23 ourdate
```

11. Display the name of the current directory starting from the root.

```
$pwd
```

```
alhussain@LAPTOP-H00TH0V3:~/mydir$ pwd
/home/alhussain/mydir
```

12. Move the files in the directory mydir back to your home directory.

```
$mv mydate (home dir path)
$mv ourdate (home dir path)
```

```
alhussain@LAPTOP-H00TH0V3:~/mydir$ mv mydate /home/alhussain
alhussain@LAPTOP-H00TH0V3:~/mydir$ mv ourdate /home/alhussain
alhussain@LAPTOP-H00TH0V3:~/mydir$ cd
alhussain@LAPTOP-H00TH0V3:~$ ls
mydate  mydir  mydir1  ourdate
```

13. Display the first 5 lines of mydate.

```
$head -5 mydate
```

```
alhussain@LAPTOP-H00TH0V3:~$ head -5 mydate
Mon Jan 16 20:19:13 IST 2023
```

14. Display the last 8 lines of mydate.

\$tail -8 mydate

```
alhussain@LAPTOP-H00TH0V3:~$ tail -8 mydate
Mon Jan 16 20:19:13 IST 2023
```

15. Remove the directory mydir.

\$rmdir mydir

```
alhussain@LAPTOP-H00TH0V3:~$ rmdir mydir
alhussain@LAPTOP-H00TH0V3:~$ ls
mydate mydir1 ourdate
```

16. Redirect the output of the long listing of files to a file named list.

\$ls al >> list

```
alhussain@LAPTOP-H00TH0V3:~$ ls
mydate mydir1 ourdate
```

17. Select any 5 capitals of states in India and enter them in a file named capitals1. Choose 5 more capitals and enter them in a file named capitals2. Choose 5 more capitals and enter them in a file named capitals3. Concatenate all 3 files and redirect the output to a file named capitals.

\$cat>capitals1.txt

```
alhussain@LAPTOP-H00TH0V3:~$ cat>>capital1.txt
Mumbai
Jaipur
Bhopal
Chandigarh
Srinagar
^Z
[1]+  Stopped                  cat >> capital1.txt
alhussain@LAPTOP-H00TH0V3:~$ cat capital1
cat: capital1: No such file or directory
alhussain@LAPTOP-H00TH0V3:~$ cat capital1.txt
Mumbai
Jaipur
Bhopal
Chandigarh
Srinagar
```

\$cat> capital2.txt

```
alhussain@LAPTOP-H00TH0V3:~$ cat>>capital2.txt
Ranchi
Patna
Lucknow
Dispur
Itanagar
^Z
[2]+  Stopped                  cat >> capital2.txt
alhussain@LAPTOP-H00TH0V3:~$ cat capital2.txt
Ranchi
Patna
Lucknow
Dispur
Itanagar
```

\$cat>capital3.txt

```
alhussain@LAPTOP-H00TH0V3:~$ cat>>capital3.txt
Chennai
Hyderabad
Amravati
Banglore
Trivandarampuram
^Z
[3]+  Stopped                  cat >> capital3.txt
alhussain@LAPTOP-H00TH0V3:~$ cat capital3.txt
Chennai
Hyderabad
Amravati
Banglore
Trivandarampuram
```

\$cat capitals1.txt capitals2.txt capitals3.txt > capitals.txt

```
alhussain@LAPTOP-H00TH0V3:~$ cat capital1.txt capital2.txt capital3.txt > capitals.txt
alhussain@LAPTOP-H00TH0V3:~$ cat capitals.txt
Mumbai
Jaipur
Bhopal
Chandighar
Srinagar
Ranchi
Patna
Lucknow
Dispur
Itanagar
Chennai
Hyderabad
Amravati
Banglore
Trivandarampuram
```

18. Concatenate the file capitals2 at the end of file capitals.

\$cat capitals2.txt >> capitals.txt

\$cat capitals.txt

```
alhussain@LAPTOP-H00TH0V3:~$ cat capital2.txt>>capitals.txt
alhussain@LAPTOP-H00TH0V3:~$ cat capitals.txt
capitals.txt: command not found
alhussain@LAPTOP-H00TH0V3:~$ cat capitals.txt
Mumbai
Jaipur
Bhopal
Chandighar
Srinagar
Ranchi
Patna
Lucknow
Dispur
Itanagar
Chennai
Hyderabad
Amravati
Banglore
Trivandarampuram
Ranchi
Patna
Lucknow
Dispur
Itanagar
```

19. Give read and write permissions to all users for the file capitals.

`$chmod 666 capitals.txt`

```
alhussain@LAPTOP-H00TH0V3:~$ chmod 666 capitals.txt
alhussain@LAPTOP-H00TH0V3:~$
```

20. Give read permissions only to the owner of the file capitals. Open the file, make some changes and try to save it. What happens ?

`$chmod 400 capitals.txt`

`$cat> capitals.txt`

```
alhussain@LAPTOP-H00TH0V3:~$ chmod 400 capitals.txt
alhussain@LAPTOP-H00TH0V3:~$ cat>capitals.txt
-bash: capitals.txt: Permission denied
```

21. Create an alias to concatenate the 3 files capitals1, capitals2, capitals3 and redirect the output to a file named capitals. Activate the alias and make it run.

`Chmod u=rwx capitals`

`Alias 'add=cat capital1.txt capital2.txt capital3.txt >> capitals.txt'`

```
alhussain@LAPTOP-H00TH0V3:~$ alias 'add=cat capital1.txt capital2.txt capital3.txt >> capitals.txt'
alhussain@LAPTOP-H00TH0V3:~$ add
alhussain@LAPTOP-H00TH0V3:~$ add
```

22. Find out the number of times the string “the” appears in the file mydate.

`$grep -o 'the' mydate|wc -l`

```
alhussain@LAPTOP-H00TH0V3:~$ grep -o 'the' mydate|wc -l
0
```

23. Find out the line numbers on which the string “date” exists in mydate.

`$grep -n 'date' mydate|wc -l`

```
alhussain@LAPTOP-H00TH0V3:~$ grep -n 'date' mydate|wc -l
0
```

24. Print all lines of mydate except those that have the letter “i” in them.

`$grep -v 'i' mydate|wc -l`

```
alhussain@LAPTOP-H00TH0V3:~$ grep -v 'i' mydate|wc -l
1
```

25. List the words of 4 letters from the file mydate.

`$grep -e '{4}' mydate|wc -w;`

```
alhussain@LAPTOP-H00TH0V3:~$ grep -e '{4}' mydate|wc -w
0
```

26. List 5 states in north east India in a file mystates. List their corresponding capitals in a file mycapitals. Use the paste command to join the 2 files.

```
$cat > mystates.txt
```

```
$cat > mycapitals.txt
```

```
alhussain@LAPTOP-H00TH0V3:~$ cat mystate1.txt
Maharashtra
Rajasthan
Madhaya Pradesh
Haryana
Jammu and Kashmir
alhussain@LAPTOP-H00TH0V3:~$ cat capital1.txt
Mumbai
Jaipur
Bhopal
Chandighar
Srinagar
```

```
$paste mystates.txt mycapitals.txt
```

```
alhussain@LAPTOP-H00TH0V3:~$ paste mystate1.txt capital1.txt
Maharashtra      Mumbai
Rajasthan        Jaipur
Madhaya Pradesh  Bhopal
Haryana          Chandighar
Jammu and Kashmir Srinagar
alhussain@LAPTOP-H00TH0V3:~$
```

27. Use the cut command to print the 1 st and 3 rd columns of the /etc/passwd file for all students in this class.

```
$cut -d: -f /etc/passwd |tee users_list
```

```
alhussain@LAPTOP-H00TH0V3:~$ cut -d: -f1,3 /etc/passwd
root:0
daemon:1
bin:2
sys:3
sync:4
games:5
man:6
lp:7
mail:8
news:9
uucp:10
proxy:13
www-data:33
backup:34
list:38
irc:39
gnats:41
nobody:65534
systemd-network:100
systemd-resolve:101
systemd-timesync:102
messagebus:103
syslog:104
_apt:105
tss:106
uidd:107
tcpdump:108
sshd:109
landscape:110
pollinate:111
alhussain:1000
alhussain@LAPTOP-H00TH0V3:~$
```

28. Count the number of people logged in and also trap the users in a file using the tee command.

```
$who | tee usercount | wc -l
```

```
alhussain@LAPTOP-H00TH0V3:~$ who | tee usercount | wc -l
0
```

29. Convert the contents of mystates into uppercase.

```
$tr 'a-z' 'A-Z' <mystate1.txt
```

```
alhussain@LAPTOP-H00TH0V3:~$ tr 'a-z' 'A-Z' < mystate1.txt
MAHARASHTRA
RAJASTHAN
MADHAYA PRADESH
HARYANA
JAMMU AND KASHMIR
alhussain@LAPTOP-H00TH0V3:~$
```

30. Create any two files & display the common values between them.

```
alhussain@LAPTOP-H00TH0V3:~$ cat>file1
alhussain
arpit
rajeev
harish
^Z
[5]+  Stopped                  cat > file1
alhussain@LAPTOP-H00TH0V3:~$ cat>file2
alhussain
arpit
prateek
soham
akshay
^Z
[6]+  Stopped                  cat > file2
alhussain@LAPTOP-H00TH0V3:~$
alhussain@LAPTOP-H00TH0V3:~$ comm file1 file2
      alhussain
      arpit
    prateek
rajeev
comm: file 1 is not in sorted order
harish
      soham
comm: file 2 is not in sorted order
      akshay
alhussain@LAPTOP-H00TH0V3:~$
```