Using sed utility

1- Display the lines that contain the word "lp" in /etc/passwd file.

```
mariam@mariam-Latitude-E6430:~$ sed -n '/lp/p' /etc/passwd
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
cups-pk-helper:x:115:122:user for cups-pk-helper service,,,:/home/cups-pk-helper
:/usr/sbin/nologin
```

```
mariam@mariam-Latitude-E6430:~$ grep -in "lp" /etc/passwd
8:lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
33:cups-pk-helper:x:115:122:user for cups-pk-helper service,,,:/home/cups-pk-hel
per:/usr/sbin/nologin
```

2- Display /etc/passwd file except the third line.

```
mariam@mariam-Latitude-E6430:~$ sed '3d' /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
```

3- Display /etc/passwd file except the last line.

```
mariam@mariam-Latitude-E6430:~$ sed '$d' /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
```

4- Display /etc/passwd file except the lines that contain the word "lp".

```
mariam@mariam-Latitude-E6430:~$ sed '/lp/d' /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
```

Bash Shell

5- Substitute all the words that contain "lp" with "mylp" in /etc/passwd file.

```
mariam@mariam-Latitude-E6430:~$ sed 's/lp/mylp/g' /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
```

Using awk utility

1- Print full name (comment) of all users in the system.

```
mariam@mariam-Latitude-E6430:~$ awk -F: '{print "fullName:",$5}' /etc/passwd
fullName: root
fullName: daemon
fullName: bin
fullName: sys
fullName: sync
fullName: games
fullName: man
fullName: lp
```

2- Print login, full name (comment) and home directory of all users.(Print each line preceded by a line number)

```
mariam@mariam-Latitude-E6430:~$ awk -F: '{print NR, "FullName: ",$5, "login: ",$1, "home dir: ",$6}' /etc/passwd
1 FullName:  root login:  root home dir:  /root
2 FullName:  daemon login:  daemon home dir:  /usr/sbin
3 FullName:  bin login:  bin home dir:  /bin
4 FullName:  sys login:  sys home dir:  /dev
5 FullName:  sync login:  sync home dir:  /bin
6 FullName:  games login:  games home dir:  /usr/games
```

Bash Shell

3- Print login, uid and full name (comment) of those uid is greater than 500

```
mariam@mariam-Latitude-E6430:~$ awk -F: '{if($3>500) print "login: ",$1, "uid: "
,$3, "fullname: ",$5}' /etc/passwd
login:  nobody uid:  65534 fullname:  nobody
login:  mariam uid:  1000 fullname:  mariam,,,
```

4- Print login, uid and full name (comment) of those uid is exactly 500

```
mariam@mariam-Latitude-E6430:~$ awk -F: '{if($3=500) print "login: ",$1, "uid: "
,$3, "fullname: ",$5}' /etc/passwd
login:  root uid:  500 fullname:  root
login:  daemon uid:  500 fullname:  daemon
login:  bin uid:  500 fullname:  bin
login:  sys uid:  500 fullname:  sys
```

5- Print line from 5 to 15 from /etc/passwd

```
mariam@mariam-Latitude-E6430:~$ awk -F: '{if(NR>=5 && NR<=15) print $0 }' /etc/p
asswd
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
```

6- Change lp to mylp

```
awk: line 1: syntax error at or near ,
mariam@mariam-Latitude-E6430:~$ awk -F: '{gsub("lp","mylp",$0);print $0}' /etc/p
asswd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
```

7- Print all information about greatest uid.

```
mariam@mariam-Latitude-E6430:~$ awk -F: 'BEGIN{max=0} {if($3>max) max=$3} END{pr
int max}' /etc/passwd
65534
```

Bash Shell

8- Get the sum of all accounts id's.

```
mariam@mariam-Latitude-E6430:~$ awk -F: 'BEGIN{sum=0} {sum+=$3} END{print sum}'
/etc/passwd
70052
```