lap1-bashShell

Using sed utility

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

```
ghx@ghx:~$ sed -n '/lp/p' /etc/passwd
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
cups-pk-helper:x:112:114:user for cups-pk-helper service,,,:/nonexistent:/usr/sbin/nologin
```

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

```
ghx@ghx:~$ sed '3d' myfile
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
games:x:5:60:games:/usr/games:/usr/sbin/nologin
```

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

```
ghx@ghx:~$ sed '$d' myfile
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
```

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

```
ghx@ghx:~$ sed '/lp/d' myfile
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
```

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

```
ghx@ghx:~$ sed 's/lp/mylp/g' myfile
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.

```
ghx@ghx:~$ awk -F: '{print $5}' myfile
root
daemon
bin
sys
```

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

by a line number)

```
ghx@ghx:~$ awk -F: '{print NR " " $1,$5,$6}' myfile
1 root root /root
2 daemon daemon /usr/sbin
3 bin bin /bin
4 sys sys /dev
```

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

```
ghx@ghx:~$ awk -F: '$3 > 500 {print $1,$3,$5}' myfile
nobody 65534 nobody
systemd-network 998 systemd Network Management
systemd-timesync 996 systemd Time Synchronization
systemd-resolve 991 systemd Resolver
systemd-oom 990 systemd Userspace OOM Killer
```

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

```
ghx@ghx:~$ awk -F: '$3==500 {print $1,$3,$5}' myfile
```

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

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

6- Change lp to mylp

```
ghx@ghx:~$ awk '{gsub(/lp/, "mylp"); print}' myfile
```

7- Print all information about greatest uid.

```
ghx@ghx:~$ awk -F: 'BEGIN {max_uid = 0} {if ($3 > max_uid) {max_uid = $3; max_line = $0}} END {print max_line
}' myfile
snap_daemon:x:584788:584788::/nonexistent:/usr/bin/false
```

8- Get the sum of all accounts id's

```
ghx@ghx:~$ awk -F: '{for (i = 1; i <= NF; i++) if (i == 3) sum += $i} END {print "sum of all id:", sum}' myfile
sum of all id: 1186355
ghx@ghx:~$
```