



Using sed utility

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

```
nardine@nardine-VirtualBox:~$ 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
nardine@nardine-VirtualBox:~$
```

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

```
nardine@nardine-VirtualBox:~$ 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
games:x:5:60:games:/usr/games:/usr/sbin/nologin
```

Displaying the third line to check:

```
nardine@nardine-VirtualBox:~$ sed -n '3p' /etc/passwd
bin:x:2:2:bin:/bin:/usr/sbin/nologin
nardine@nardine-VirtualBox:~$
```

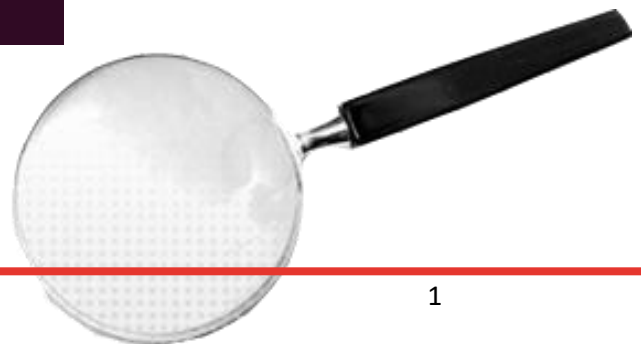
3- Display /etc/passwd file except the last line.

```
nardine@nardine-VirtualBox:~$ 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
```

```
gnome-initial-setup:x:126:65534:/:/run/gnome-initial-setup:/bin/false
hplip:x:127:7:HPLIP system user,,,:/run/hplip:/bin/false
gdm:x:128:134:Gnome Display Manager:/var/lib/gdm3:/bin/false
nardine:x:1000:1000:Nardine William,,,:/home/nardine:/bin/bash
vboxadd:x:999:1:/:/var/run/vboxadd:/bin/false
nardine@nardine-VirtualBox:~$
```

Displaying the last line to check:

```
nardine@nardine-VirtualBox:~$ tail -3 /etc/passwd
nardine:x:1000:1000:Nardine William,,,:/home/nardine:/bin/bash
vboxadd:x:999:1:/:/var/run/vboxadd:/bin/false
postfix:x:129:137:/:/var/spool/postfix:/usr/sbin/nologin
nardine@nardine-VirtualBox:~$
```



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

```
nardine@nardine-VirtualBox:~$ 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
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/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
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:102:105:/:nonexistent:/usr/sbin/nologin
```

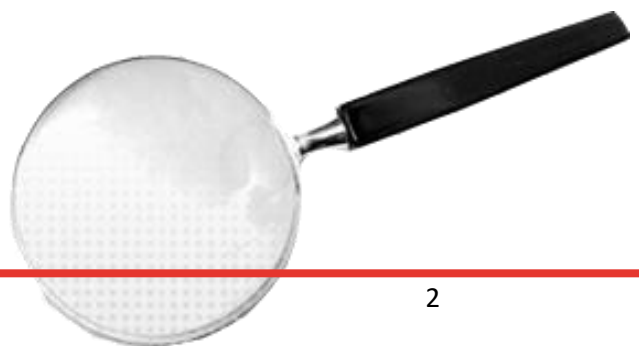
5- Substitute all the words that contain “lp” with “mylp” in /etc/passwd file.

```
nardine@nardine-VirtualBox:~$ sed -n 's/lp/mylp/gp' /etc/passwd
mylp:x:7:7:mylp:/var/spool/mylpd:/usr/sbin/nologin
cups-pk-hemylper:x:115:122:user for cups-pk-hemylper service,,,:/home/cups-pk-hemylper:/usr/sbin/nologin
nardine@nardine-VirtualBox:~$
```

Using awk utility

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

```
nardine@nardine-VirtualBox:~$ awk -F: '{print "Full name:",$5}' /etc/passwd
Full name: root
Full name: daemon
Full name: bin
Full name: sys
Full name: sync
Full name: games
Full name: man
Full name: lp
Full name: mail
Full name: news
Full name: NetworkManager OpenVPN,,,
Full name:
Full name: colord colour management daemon,,,
Full name:
Full name: PulseAudio daemon,,,
Full name:
Full name: HPLIP system user,,,
Full name: Gnome Display Manager
Full name: Nardine William,,,
Full name:
Full name:
nardine@nardine-VirtualBox:~$
```



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

```
nardine@nardine-VirtualBox:~$ awk -F: '{print NR,$1,$5,$6}' /etc/passwd
1 root root /root
2 daemon daemon /usr/sbin
3 bin bin /bin
4 sys sys /dev
5 sync sync /bin
6 games games /usr/games
7 man man /var/cache/man
8 lp lp /var/spool/lpd
9 mail mail /var/mail
10 news news /var/spool/news
11 uucp uucp /var/spool/uucp
12 proxy proxy /bin
13 www-data www-data /var/www
14 backup backup /var/backups
```

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

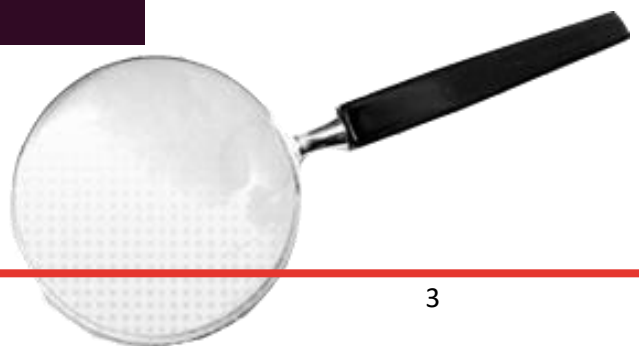
```
nardine@nardine-VirtualBox:~$ awk -F: '{if ($3>500) print $1,$3,$5}' /etc/passwd
nobody 65534 nobody
nardine 1000 Nardine William,,,
vboxadd 999
nardine@nardine-VirtualBox:~$
```

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

```
nardine@nardine-VirtualBox:~$ awk -F: '{if ($3==0) print $1,$3,$5}' /etc/passwd
root 0 root
nardine@nardine-VirtualBox:~$
```

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

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



6- Change lp to mylp

```
nardine@nardine-VirtualBox:~$ awk -F: '{for(i=1;i<NF;i++) gsub(/lp/, "mylp", $i); print}' /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
mylp x 7 7 mylp /var/spool/mylpd /usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
```

7- Print all information about greatest uid.

```
nardine@nardine-VirtualBox:~$ awk -F: 'BEGIN{max=0} {if($3>max) {max=$3 ; info=$0}} END {print info}' /etc/passwd
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
nardine@nardine-VirtualBox:~$
```

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

```
nardine@nardine-VirtualBox:~$ awk -F: '{sum+=$3} END {print "Sum=" ,sum}' /etc/passwd
Sum= 71221
nardine@nardine-VirtualBox:~$
```

