

## Using sed utility

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

```
mohamedtorkey@192:~$ sed -n '/lp/p' /etc/passwd
lp:x:4:7:lp:/var/spool/lpd:/usr/sbin/nologin
flatpak:x:984:982:Flatpak system helper:/usr/sbin/nologin
mohamedtorkey@192:~$
```

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

```
mohamedtorkey@192:~$ sed '3d' /etc/passwd
root:x:0:0:Super User:/root:/bin/bash
bin:x:1:1:bin:/bin:/usr/sbin/nologin
adm:x:3:4:adm:/var/adm:/usr/sbin/nologin
lp:x:4:7:lp:/var/spool/lpd:/usr/sbin/nologin
sync:x:5:0:sync:/sbin:/bin/sync
```

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

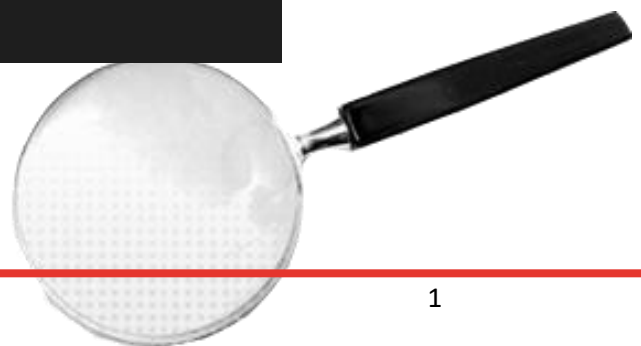
```
mohamedtorkey@192:~$ sed '$d' /etc/passwd
root:x:0:0:Super User:/root:/bin/bash
bin:x:1:1:bin:/bin:/usr/sbin/nologin
daemon:x:2:2:daemon:/sbin:/usr/sbin/nologin
adm:x:3:4:adm:/var/adm:/usr/sbin/nologin
```

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

```
mohamedtorkey@192:~$ sed '/lp/d' /etc/passwd
root:x:0:0:Super User:/root:/bin/bash
bin:x:1:1:bin:/bin:/usr/sbin/nologin
daemon:x:2:2:daemon:/sbin:/usr/sbin/nologin
adm:x:3:4:adm:/var/adm:/usr/sbin/nologin
```

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

```
mohamedtorkey@192:~$ sed 's/lp/mylp/g' /etc/passwd
root:x:0:0:Super User:/root:/bin/bash
bin:x:1:1:bin:/bin:/usr/sbin/nologin
daemon:x:2:2:daemon:/sbin:/usr/sbin/nologin
adm:x:3:4:adm:/var/adm:/usr/sbin/nologin
mylp:x:4:7:mylp:/var/spool/mylpd:/usr/sbin/nologin
```



## awk utility

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

```
mohamedtorkey@192:~$ awk -F':' '{print $5}' /etc/passwd
Super User
bin
daemon
adm
```

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

```
mohamedtorkey@192:~$ awk -F':' '{print NR, $1, $5, $6}' /etc/passwd
1 root Super User /root
2 bin bin /bin
3 daemon daemon /sbin
4 adm adm /var/adm
```

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

```
mohamedtorkey@192:~$ awk -F':' '$3 > 500 {print $1, $3, $5}' /etc/passwd
nobody 65534 Kernel Overflow User
systemd-coredump 998 systemd Core Dumper
systemd-oom 997 systemd Userspace OOM Killer
systemd-timesync 996 systemd Time Synchronization
```

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

```
mohamedtorkey@192:~$ awk -F':' '$3 == 500 {print $1, $3, $5}' /etc/passwd
mohamedtorkey@192:~$
```

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

```
mohamedtorkey@192:~$ awk 'NR>=5 && NR<=15' /etc/passwd
lp:x:4:7:lp:/var/spool/lpd:/usr/sbin/nologin
sync:x:5:0:sync:/sbin:/bin/sync
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown
halt:x:7:0:halt:/sbin:/sbin/halt
```

6- Change lp to mylp

```
mohamedtorkey@192:~$ awk '{gsub(/lp/, "mylp"); print}' /etc/passwd
root:x:0:0:Super User:/root:/bin/bash
bin:x:1:1:bin:/bin:/usr/sbin/nologin
daemon:x:2:2:daemon:/sbin:/usr/sbin/nologin
adm:x:3:4:adm:/var/adm:/usr/sbin/nologin
```

7- Print all information about greatest uid.

```
mohamedtorkey@192:~$ awk -F':' 'max < $3 {max=$3; line=$0} END{print line}' /etc/passwd
nobody:x:65534:65534:Kernel Overflow User:/:usr/sbin/nologin
mohamedtorkey@192:~$
```

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

```
mohamedtorkey@192:~$ awk -F':' '{sum+=$3} END{print sum}' /etc/passwd
85008
mohamedtorkey@192:~$
```

