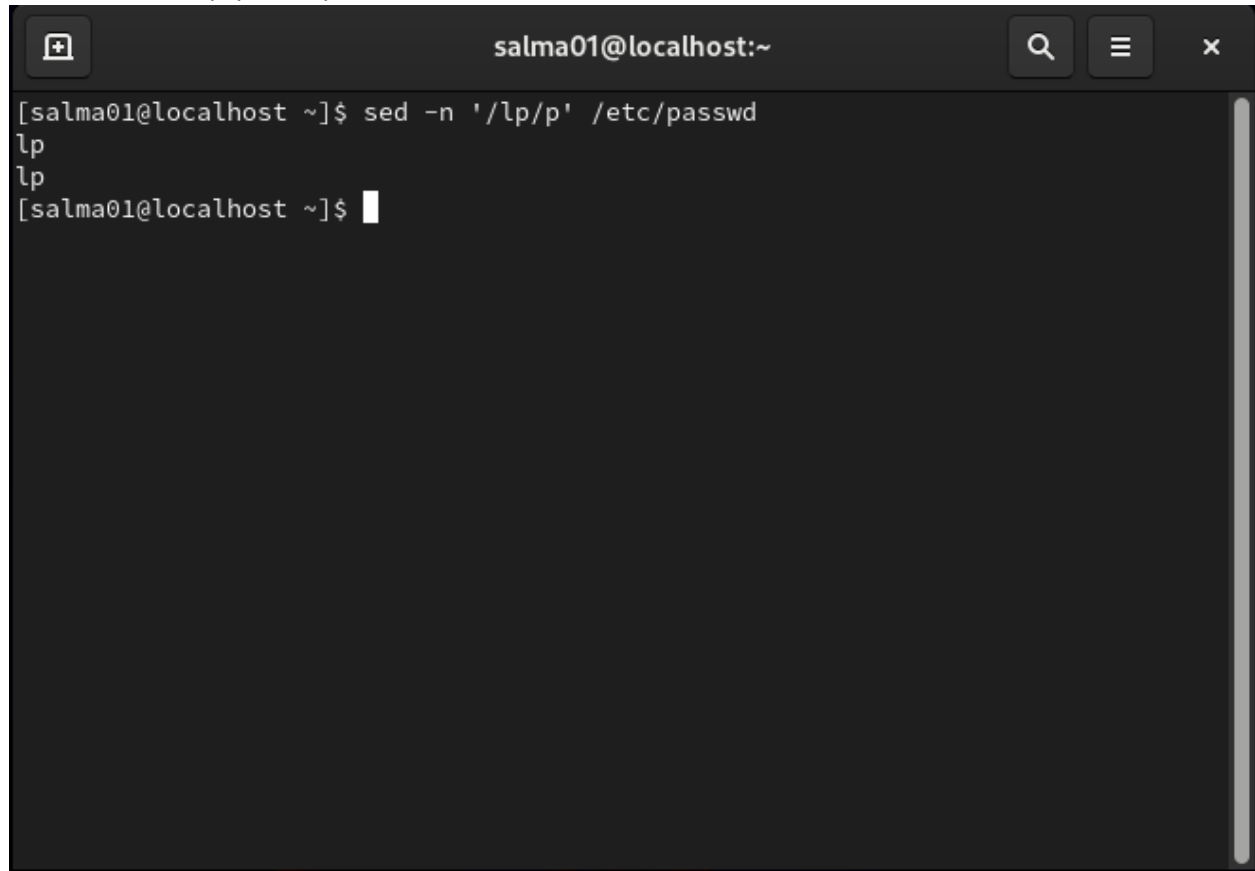Using sed utility

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

sed -n '/lp/p' /etc/passwd

```
[salma01@localhost ~]$ sed -n '/lp/p' /etc/passwd
lp
lp
[salma01@localhost ~]$
```
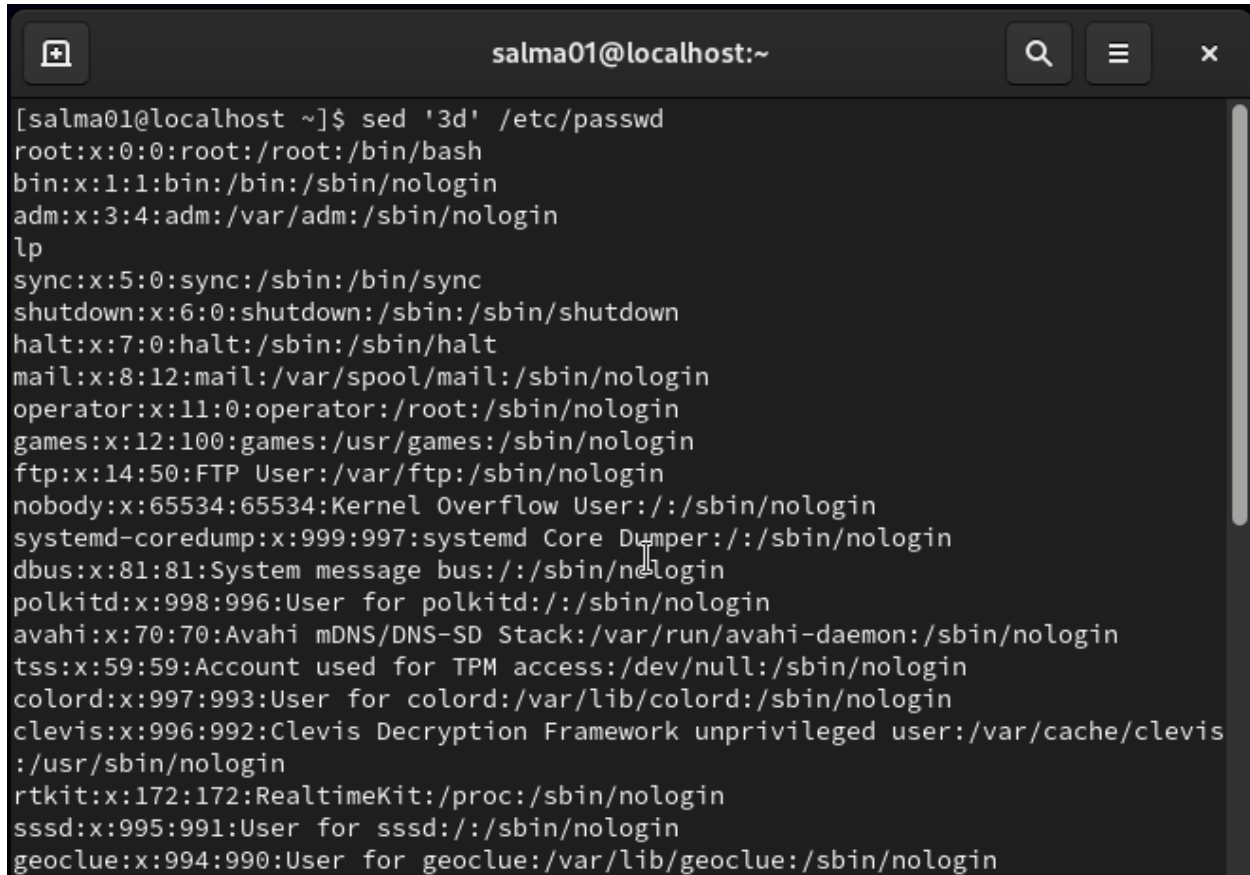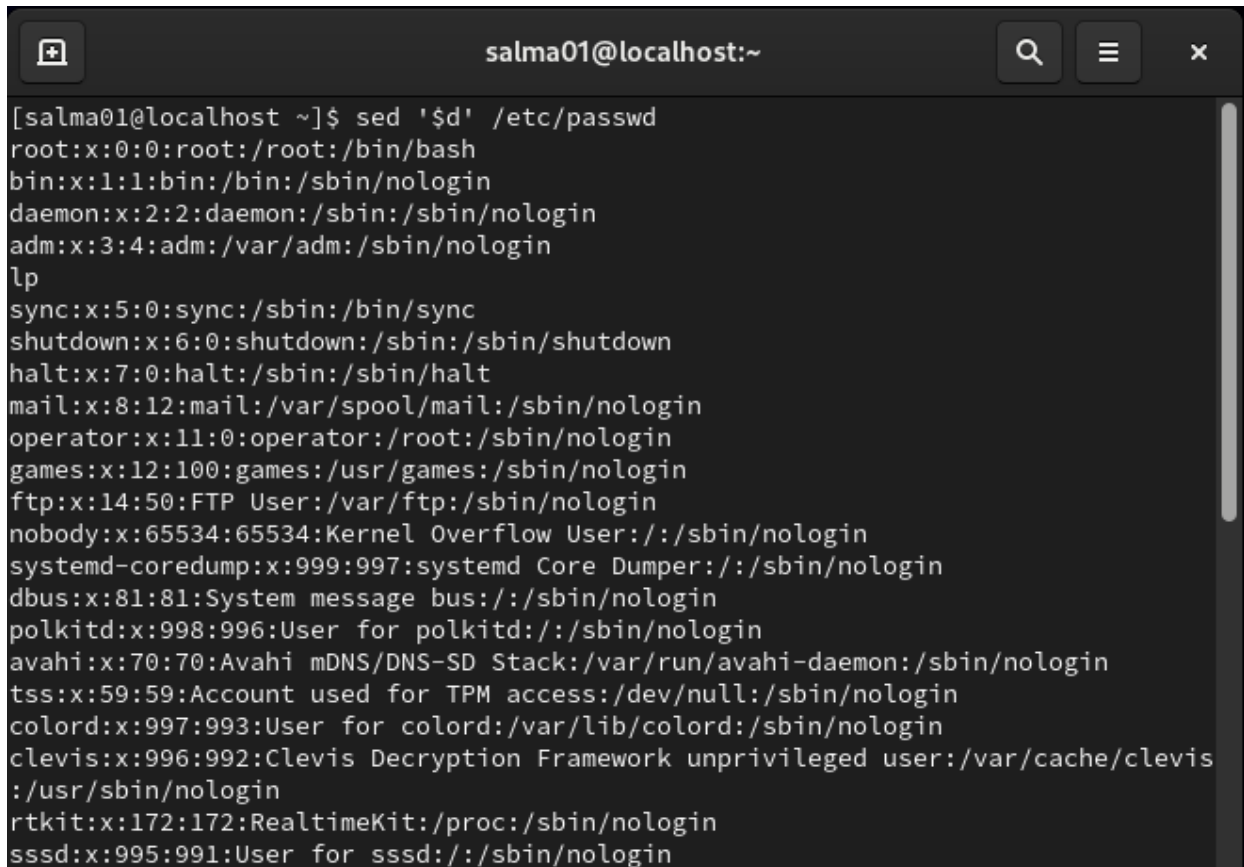
2- Display /etc/passwd file except the third line.

Sed '3d' /etc/passwd

```
[salma01@localhost ~]$ sed '3d' /etc/passwd
root:x:0:0:root:/root:/bin/bash
bin:x:1:1:bin:/bin:/sbin/nologin
adm:x:3:4:adm:/var/adm:/sbin/nologin
lp
sync:x:5:0:sync:/sbin:/bin/sync
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown
halt:x:7:0:halt:/sbin:/sbin/halt
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin
operator:x:11:0:operator:/root:/sbin/nologin
games:x:12:100:games:/usr/games:/sbin/nologin
ftp:x:14:50:FTP User:/var/ftp:/sbin/nologin
nobody:x:65534:65534:Kernel Overflow User:/:/sbin/nologin
systemd-coredump:x:999:997:systemd Core Dumper:/:/sbin/nologin
dbus:x:81:81:System message bus:/:/sbin/nologin
polkitd:x:998:996:User for polkitd:/:/sbin/nologin
avahi:x:70:70:Avahi mDNS/DNS-SD Stack:/var/run/avahi-daemon:/sbin/nologin
tss:x:59:59:Account used for TPM access:/dev/null:/sbin/nologin
colord:x:997:993:User for colord:/var/lib/colord:/sbin/nologin
clevis:x:996:992:Clevis Decryption Framework unprivileged user:/var/cache/clevis
:/usr/sbin/nologin
rtkit:x:172:172:RealtimeKit:/proc:/sbin/nologin
sssd:x:995:991:User for sssd:/:/sbin/nologin
geoclue:x:994:990:User for geoclue:/var/lib/geoclue:/sbin/nologin
```
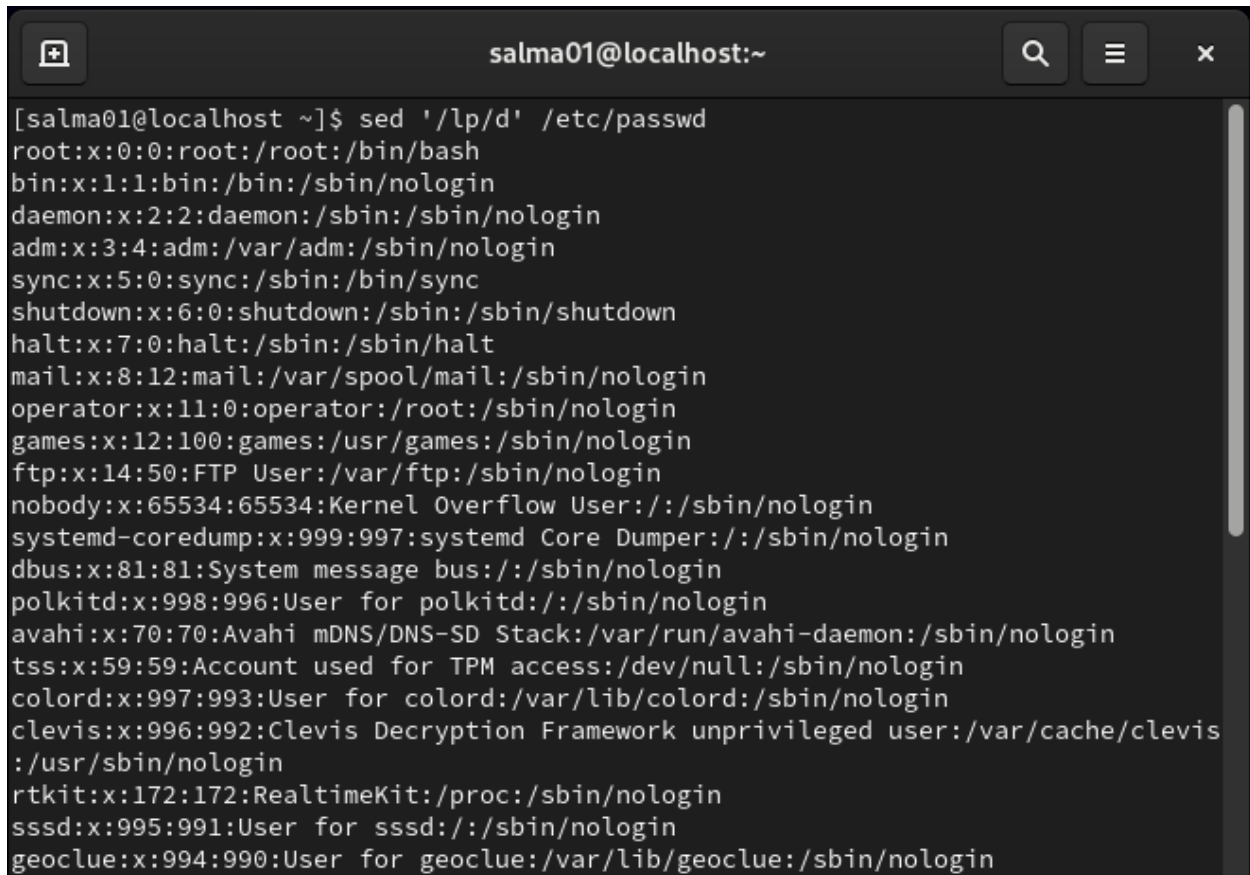
3- Display /etc/passwd file except the last line.

Sed '$d' /etc/passwd

```
[salma01@localhost ~]$ sed '$d' /etc/passwd
root:x:0:0:root:/root:/bin/bash
bin:x:1:1:bin:/bin:/sbin/nologin
daemon:x:2:2:daemon:/sbin:/sbin/nologin
adm:x:3:4:adm:/var/adm:/sbin/nologin
lp
sync:x:5:0:sync:/sbin:/bin/sync
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown
halt:x:7:0:halt:/sbin:/sbin/halt
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin
operator:x:11:0:operator:/root:/sbin/nologin
games:x:12:100:games:/usr/games:/sbin/nologin
ftp:x:14:50:FTP User:/var/ftp:/sbin/nologin
nobody:x:65534:65534:Kernel Overflow User:/:/sbin/nologin
systemd-coredump:x:999:997:systemd Core Dumper:/:/sbin/nologin
dbus:x:81:81:System message bus:/:/sbin/nologin
polkitd:x:998:996:User for polkitd:/:/sbin/nologin
avahi:x:70:70:Avahi mDNS/DNS-SD Stack:/var/run/avahi-daemon:/sbin/nologin
tss:x:59:59:Account used for TPM access:/dev/null:/sbin/nologin
colord:x:997:993:User for colord:/var/lib/colord:/sbin/nologin
clevis:x:996:992:Clevis Decryption Framework unprivileged user:/var/cache/clevis
:/usr/sbin/nologin
rtkit:x:172:172:RealtimeKit:/proc:/sbin/nologin
sssd:x:995:991:User for sssd:/:/sbin/nologin
```

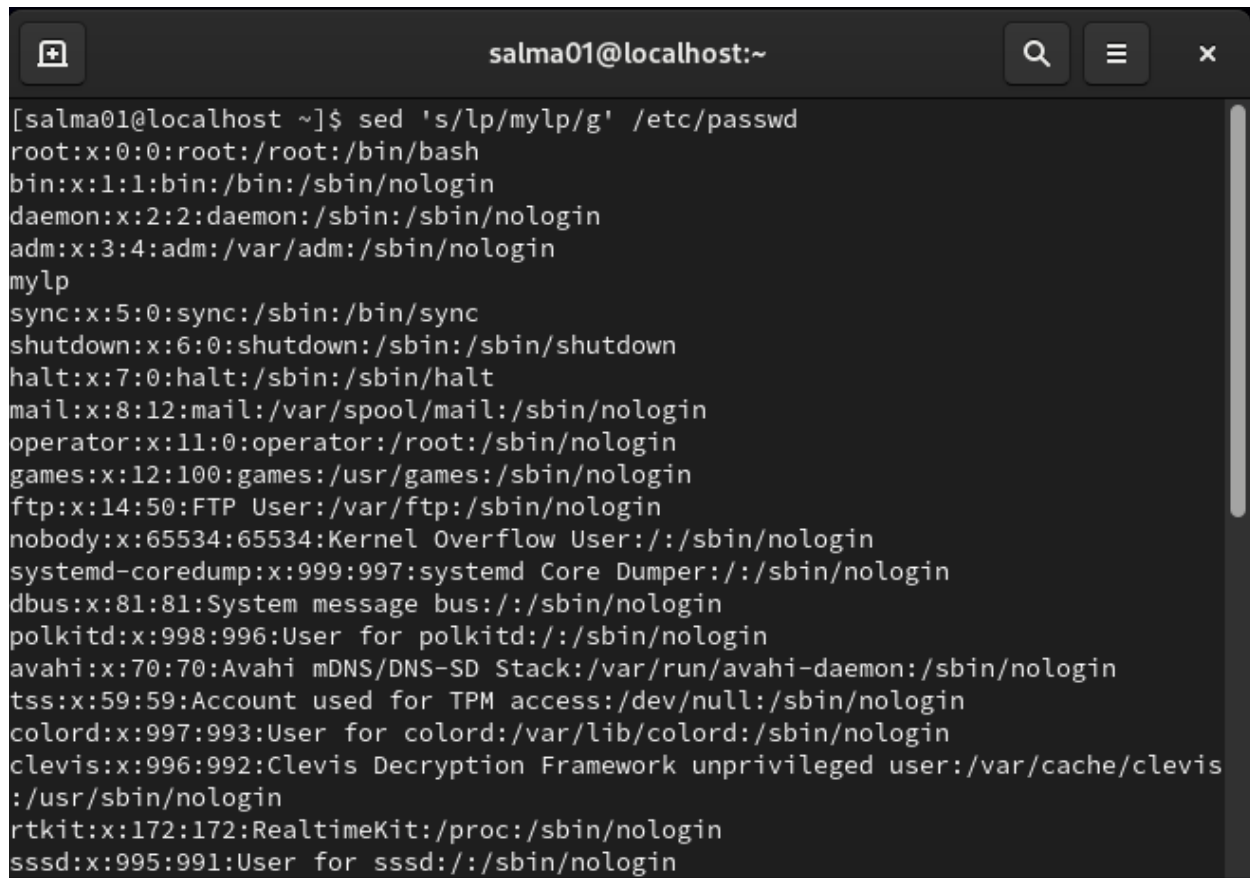4- Display /etc/passwd file except the lines that contain the word "lp".

Sed '/lp/d' /etc/passwd

```
[salma01@localhost ~]$ sed '/lp/d' /etc/passwd
root:x:0:0:root:/root:/bin/bash
bin:x:1:1:bin:/bin:/sbin/nologin
daemon:x:2:2:daemon:/sbin:/sbin/nologin
adm:x:3:4:adm:/var/adm:/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
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin
operator:x:11:0:operator:/root:/sbin/nologin
games:x:12:100:games:/usr/games:/sbin/nologin
ftp:x:14:50:FTP User:/var/ftp:/sbin/nologin
nobody:x:65534:65534:Kernel Overflow User:/:/sbin/nologin
systemd-coredump:x:999:997:systemd Core Dumper:/:/sbin/nologin
dbus:x:81:81:System message bus:/:/sbin/nologin
polkitd:x:998:996:User for polkitd:/:/sbin/nologin
avahi:x:70:70:Avahi mDNS/DNS-SD Stack:/var/run/avahi-daemon:/sbin/nologin
tss:x:59:59:Account used for TPM access:/dev/null:/sbin/nologin
colord:x:997:993:User for colord:/var/lib/colord:/sbin/nologin
clevis:x:996:992:Clevis Decryption Framework unprivileged user:/var/cache/clevis
:/usr/sbin/nologin
rtkit:x:172:172:RealtimeKit:/proc:/sbin/nologin
sssd:x:995:991:User for sssd:/:/sbin/nologin
geoclue:x:994:990:User for geoclue:/var/lib/geoclue:/sbin/nologin
```

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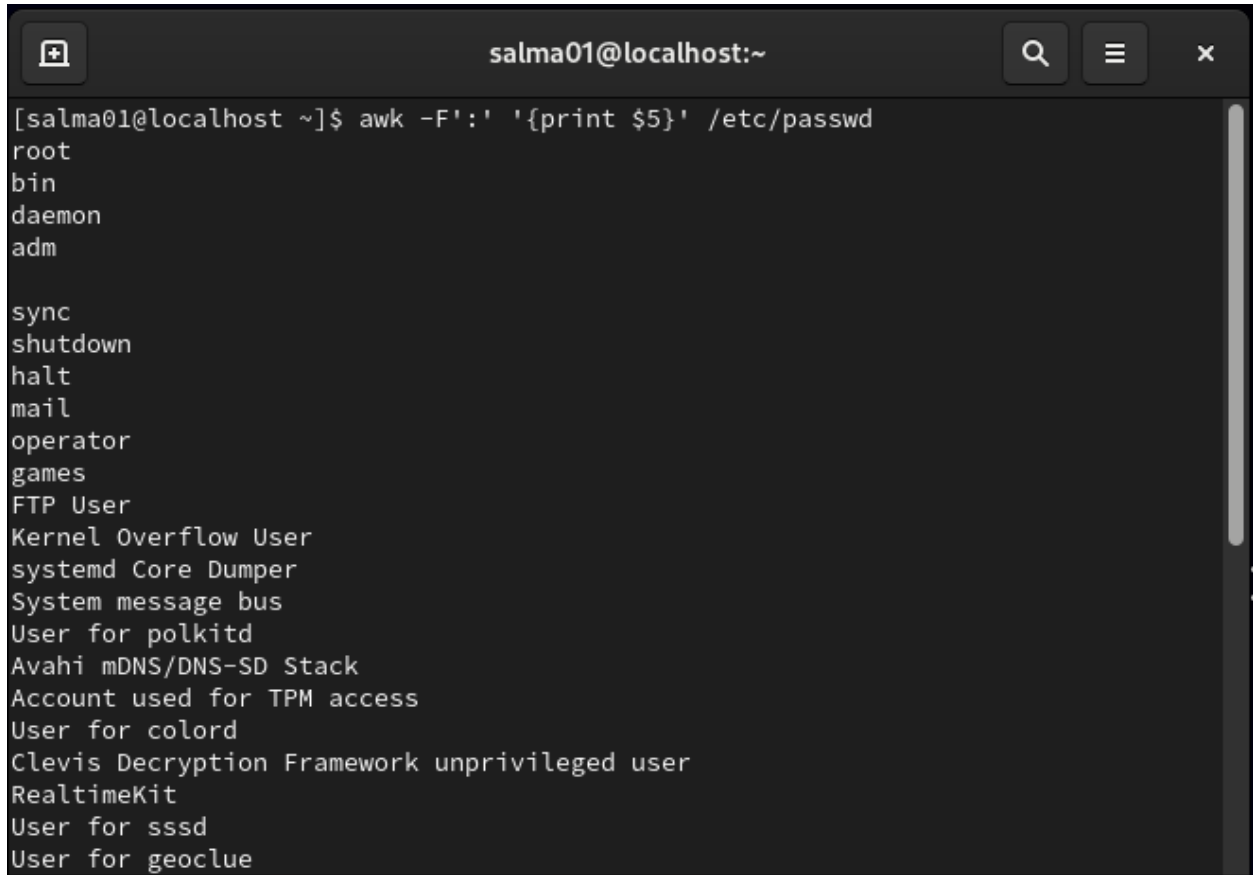
Sed 's/lp/mylp/g' /etc/passwd

```
[salma01@localhost ~]$ sed 's/lp/mylp/g' /etc/passwd
root:x:0:0:root:/root:/bin/bash
bin:x:1:1:bin:/bin:/sbin/nologin
daemon:x:2:2:daemon:/sbin:/sbin/nologin
adm:x:3:4:adm:/var/adm:/sbin/nologin
mylp
sync:x:5:0:sync:/sbin:/bin/sync
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown
halt:x:7:0:halt:/sbin:/sbin/halt
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin
operator:x:11:0:operator:/root:/sbin/nologin
games:x:12:100:games:/usr/games:/sbin/nologin
ftp:x:14:50:FTP User:/var/ftp:/sbin/nologin
nobody:x:65534:65534:Kernel Overflow User:/:/sbin/nologin
systemd-coredump:x:999:997:systemd Core Dumper:/:/sbin/nologin
dbus:x:81:81:System message bus:/:/sbin/nologin
polkitd:x:998:996:User for polkitd:/:/sbin/nologin
avahi:x:70:70:Avahi mDNS/DNS-SD Stack:/var/run/avahi-daemon:/sbin/nologin
tss:x:59:59:Account used for TPM access:/dev/null:/sbin/nologin
colord:x:997:993:User for colord:/var/lib/colord:/sbin/nologin
clevis:x:996:992:Clevis Decryption Framework unprivileged user:/var/cache/clevis
:/usr/sbin/nologin
rtkit:x:172:172:RealtimeKit:/proc:/sbin/nologin
sssd:x:995:991:User for sssd:/:/sbin/nologin
```

Using awk utility

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

    awk -F':' '{print $5}' /etc/passwd

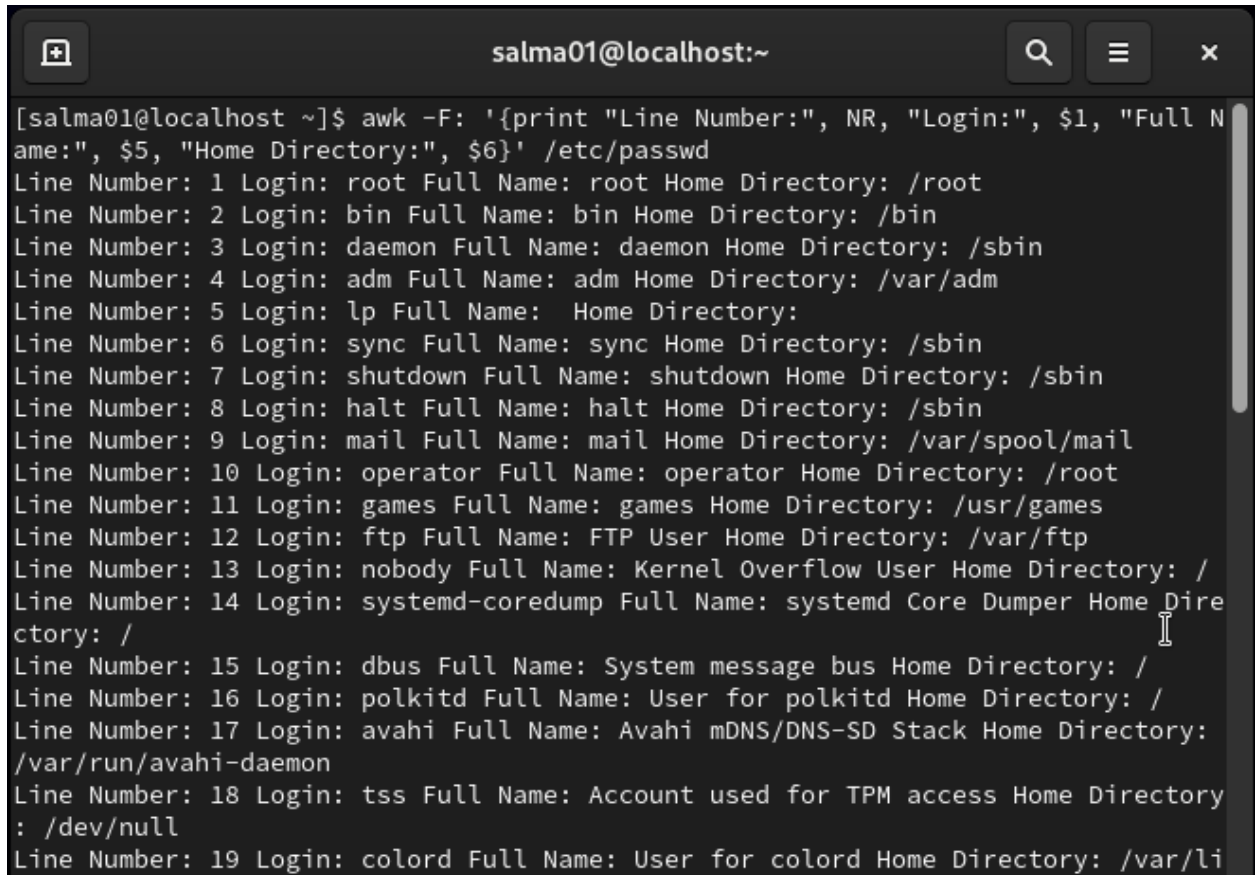```
[salma01@localhost ~]$ awk -F':' '{print $5}' /etc/passwd
root
bin
daemon
adm

sync
shutdown
halt
mail
operator
games
FTP User
Kernel Overflow User
systemd Core Dumper
System message bus
User for polkitd
Avahi mDNS/DNS-SD Stack
Account used for TPM access
User for colord
Clevis Decryption Framework unprivileged user
RealtimeKit
User for sssd
User for geoclue
```

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

by a line number)

    awk -F: '{print "Line Number:", NR, "Login:", $1, "Full Name:", $5, "Home Directory:", $6}'
/etc/passwd

```
[salma01@localhost ~]$ awk -F: '{print "Line Number:", NR, "Login:", $1, "Full N
ame:", $5, "Home Directory:", $6}' /etc/passwd
Line Number: 1 Login: root Full Name: root Home Directory: /root
Line Number: 2 Login: bin Full Name: bin Home Directory: /bin
Line Number: 3 Login: daemon Full Name: daemon Home Directory: /sbin
Line Number: 4 Login: adm Full Name: adm Home Directory: /var/adm
Line Number: 5 Login: lp Full Name:  Home Directory:
Line Number: 6 Login: sync Full Name: sync Home Directory: /sbin
Line Number: 7 Login: shutdown Full Name: shutdown Home Directory: /sbin
Line Number: 8 Login: halt Full Name: halt Home Directory: /sbin
Line Number: 9 Login: mail Full Name: mail Home Directory: /var/spool/mail
Line Number: 10 Login: operator Full Name: operator Home Directory: /root
Line Number: 11 Login: games Full Name: games Home Directory: /usr/games
Line Number: 12 Login: ftp Full Name: FTP User Home Directory: /var/ftp
Line Number: 13 Login: nobody Full Name: Kernel Overflow User Home Directory: /
Line Number: 14 Login: systemd-coredump Full Name: systemd Core Dumper Home Dire
ctory: /
Line Number: 15 Login: dbus Full Name: System message bus Home Directory: /
Line Number: 16 Login: polkitd Full Name: User for polkitd Home Directory: /
Line Number: 17 Login: avahi Full Name: Avahi mDNS/DNS-SD Stack Home Directory:
/var/run/avahi-daemon
Line Number: 18 Login: tss Full Name: Account used for TPM access Home Directory
: /dev/null
Line Number: 19 Login: colord Full Name: User for colord Home Directory: /var/li
```
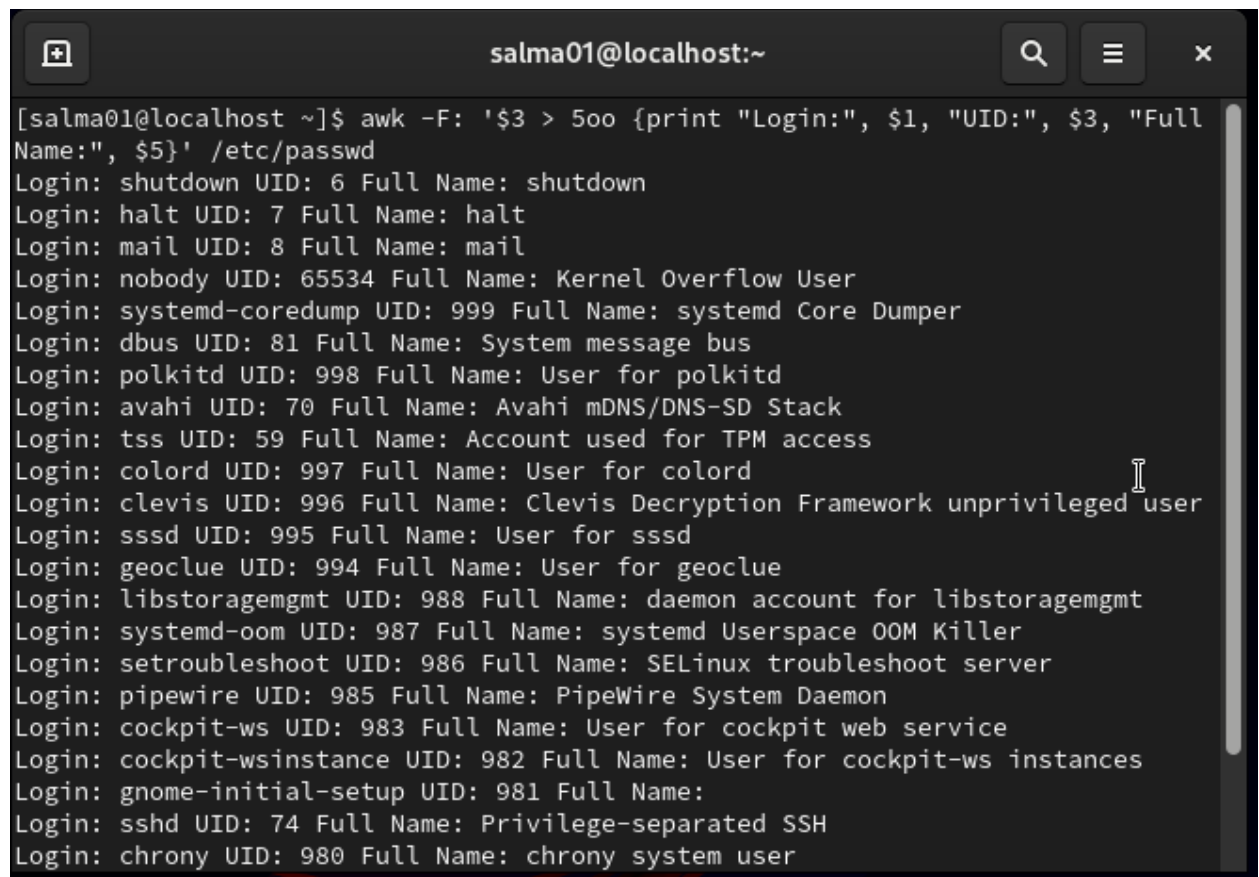
3- Print login, uid and full name (comment) of those uid is greater than 500

awk -F: '$3 > 500 {print "Login:", $1, "UID:", $3, "Full Name:", $5}' /etc/passwd

```
[salma01@localhost ~]$ awk -F: '$3 > 5oo {print "Login:", $1, "UID:", $3, "Full
Name:", $5}' /etc/passwd
Login: shutdown UID: 6 Full Name: shutdown
Login: halt UID: 7 Full Name: halt
Login: mail UID: 8 Full Name: mail
Login: nobody UID: 65534 Full Name: Kernel Overflow User
Login: systemd-coredump UID: 999 Full Name: systemd Core Dumper
Login: dbus UID: 81 Full Name: System message bus
Login: polkitd UID: 998 Full Name: User for polkitd
Login: avahi UID: 70 Full Name: Avahi mDNS/DNS-SD Stack
Login: tss UID: 59 Full Name: Account used for TPM access
Login: colord UID: 997 Full Name: User for colord
Login: clevis UID: 996 Full Name: Clevis Decryption Framework unprivileged user
Login: sssd UID: 995 Full Name: User for sssd
Login: geoclue UID: 994 Full Name: User for geoclue
Login: libstoragemgmt UID: 988 Full Name: daemon account for libstoragemgmt
Login: systemd-oom UID: 987 Full Name: systemd Userspace OOM Killer
Login: setroubleshoot UID: 986 Full Name: SELinux troubleshoot server
Login: pipewire UID: 985 Full Name: PipeWire System Daemon
Login: cockpit-ws UID: 983 Full Name: User for cockpit web service
Login: cockpit-wsinstance UID: 982 Full Name: User for cockpit-ws instances
Login: gnome-initial-setup UID: 981 Full Name:
Login: sshd UID: 74 Full Name: Privilege-separated SSH
Login: chrony UID: 980 Full Name: chrony system user
```
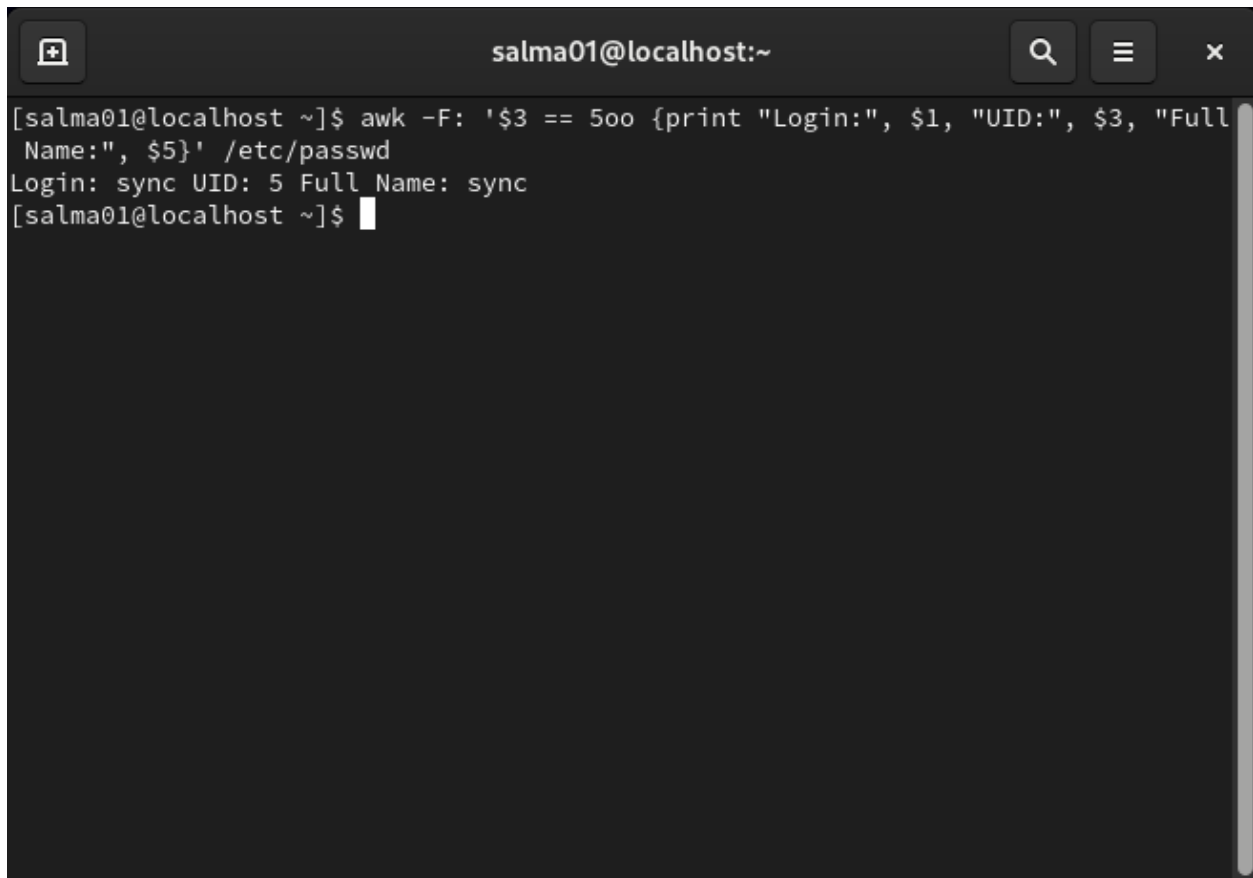
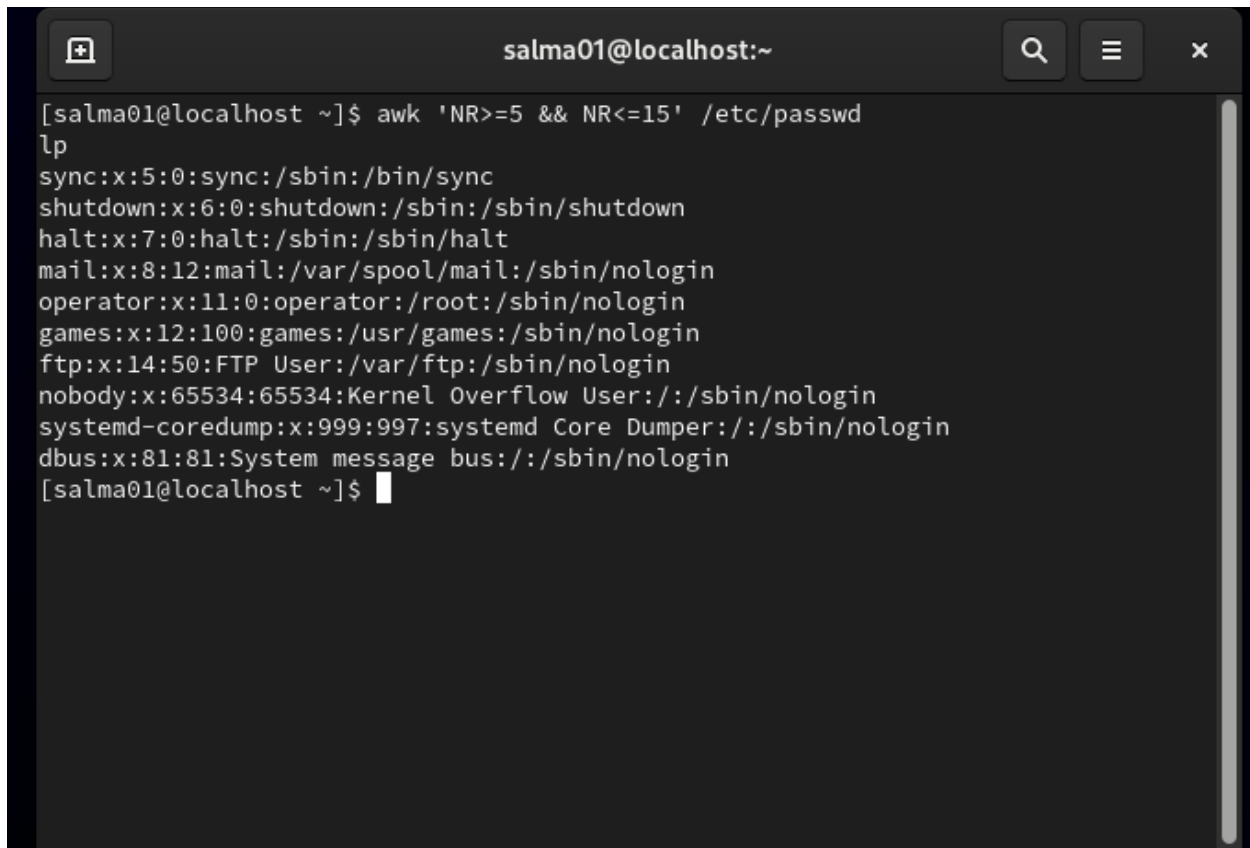4- Print login, uid and full name (comment) of those uid is exactly 500

awk -F':' '$3 == 500 {print "Login: " $1 ", UID: " $3 ", Full Name: " $5}' /etc/passwd



```
[salma01@localhost ~]$ awk -F: '$3 == 5oo {print "Login:", $1, "UID:", $3, "Full
 Name:", $5}' /etc/passwd
Login: sync UID: 5 Full_Name: sync
[salma01@localhost ~]$
```

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

awk 'NR >= 5 && NR <= 15' /etc/passwd

```
[salma01@localhost ~]$ awk 'NR>=5 && NR<=15' /etc/passwd
lp
sync:x:5:0:sync:/sbin:/bin/sync
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown
halt:x:7:0:halt:/sbin:/sbin/halt
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin
operator:x:11:0:operator:/root:/sbin/nologin
games:x:12:100:games:/usr/games:/sbin/nologin
ftp:x:14:50:FTP User:/var/ftp:/sbin/nologin
nobody:x:65534:65534:Kernel Overflow User:/:/sbin/nologin
systemd-coredump:x:999:997:systemd Core Dumper:/:/sbin/nologin
dbus:x:81:81:System message bus:/:/sbin/nologin
[salma01@localhost ~]$
```
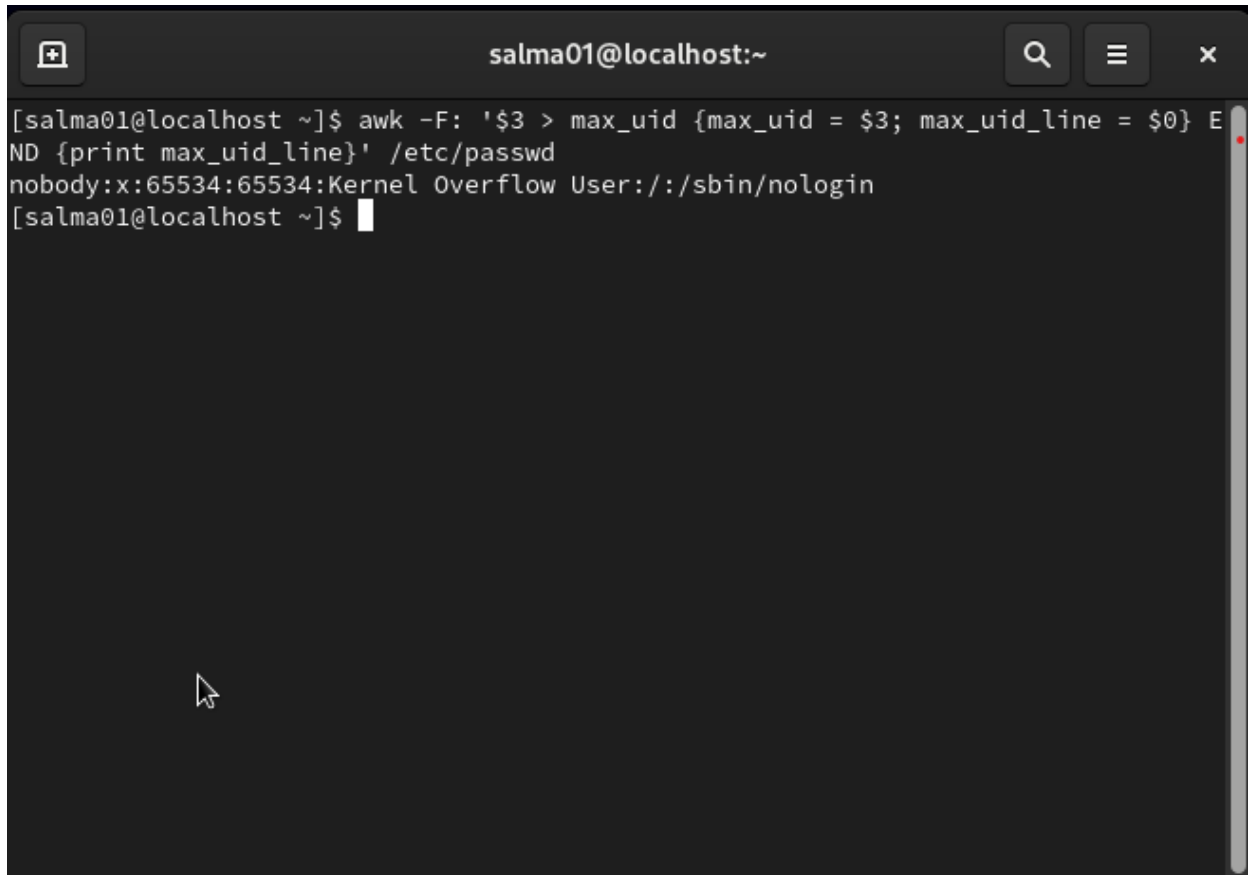
6- Change lp to mylp

awk '{gsub(/lp/, "mylp")}1' /etc/passwd

```
[salma01@localhost ~]$ awk '{gsub(/lp/, "mylp")}1' /etc/passwd
root:x:0:0:root:/root:/bin/bash
bin:x:1:1:bin:/bin:/sbin/nologin
daemon:x:2:2:daemon:/sbin:/sbin/nologin
adm:x:3:4:adm:/var/adm:/sbin/nologin
mylp
sync:x:5:0:sync:/sbin:/bin/sync
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown
halt:x:7:0:halt:/sbin:/sbin/halt
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin
operator:x:11:0:operator:/root:/sbin/nologin
games:x:12:100:games:/usr/games:/sbin/nologin
ftp:x:14:50:FTP User:/var/ftp:/sbin/nologin
nobody:x:65534:65534:Kernel Overflow User:/:/sbin/nologin
systemd-coredump:x:999:997:systemd Core Dumper:/:/sbin/nologin
dbus:x:81:81:System message bus:/:/sbin/nologin
polkitd:x:998:996:User for polkitd:/:/sbin/nologin
avahi:x:70:70:Avahi mDNS/DNS-SD Stack:/var/run/avahi-daemon:/sbin/nologin
tss:x:59:59:Account used for TPM access:/dev/null:/sbin/nologin
colord:x:997:993:User for colord:/var/lib/colord:/sbin/nologin
clevis:x:996:992:Clevis Decryption Framework unprivileged user:/var/cache/clevis
:/usr/sbin/nologin
rtkit:x:172:172:RealtimeKit:/proc:/sbin/nologin
sssd:x:995:991:User for sssd:/:/sbin/nologin
```

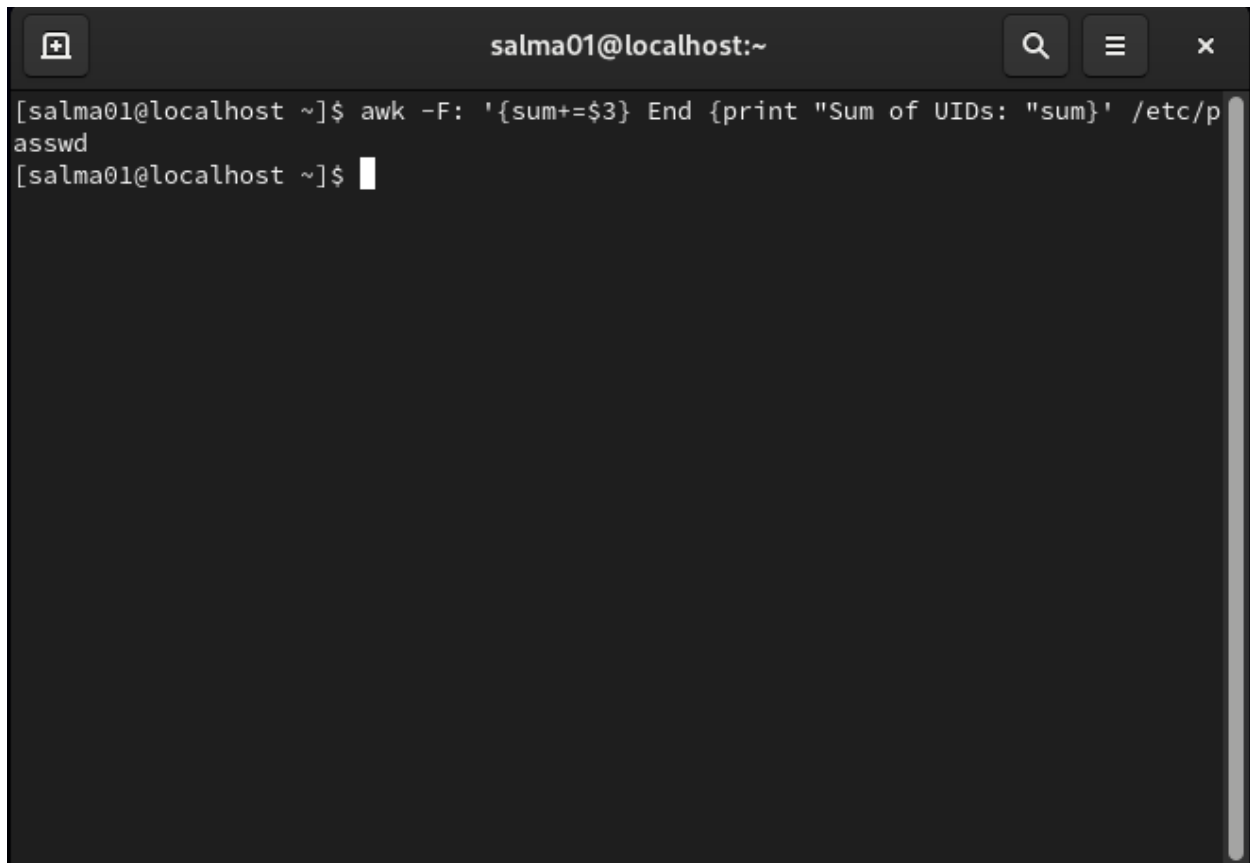7- Print all information about greatest uid.

awk -F: '$3 > max_uid { max_uid = $3; max_uid_line = $0 } END { print max_uid_line }'
/etc/passwd

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

        awk -F: '{ sum += $3 } END { print "Sum of UIDs: " sum }' /etc/passwd

```
[salma01@localhost ~]$ awk -F: '{sum+=$3} End {print "Sum of UIDs: "sum}' /etc/p
asswd
[salma01@localhost ~]$ ▮
```