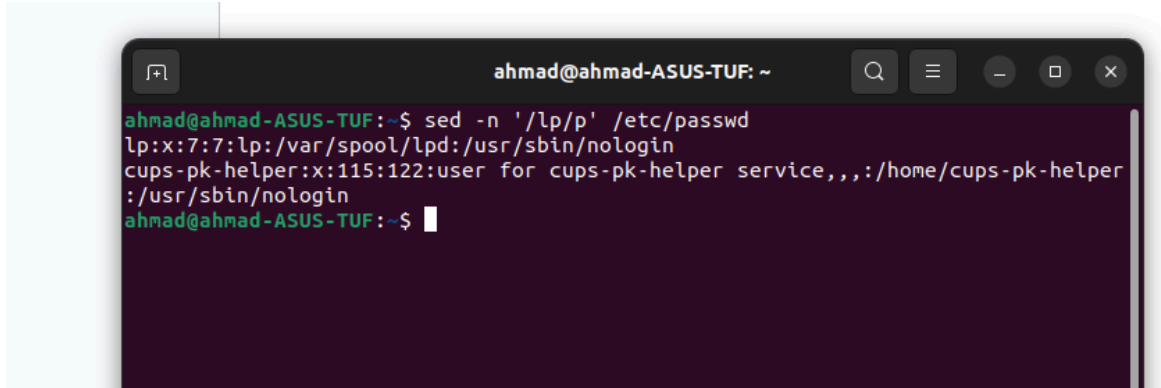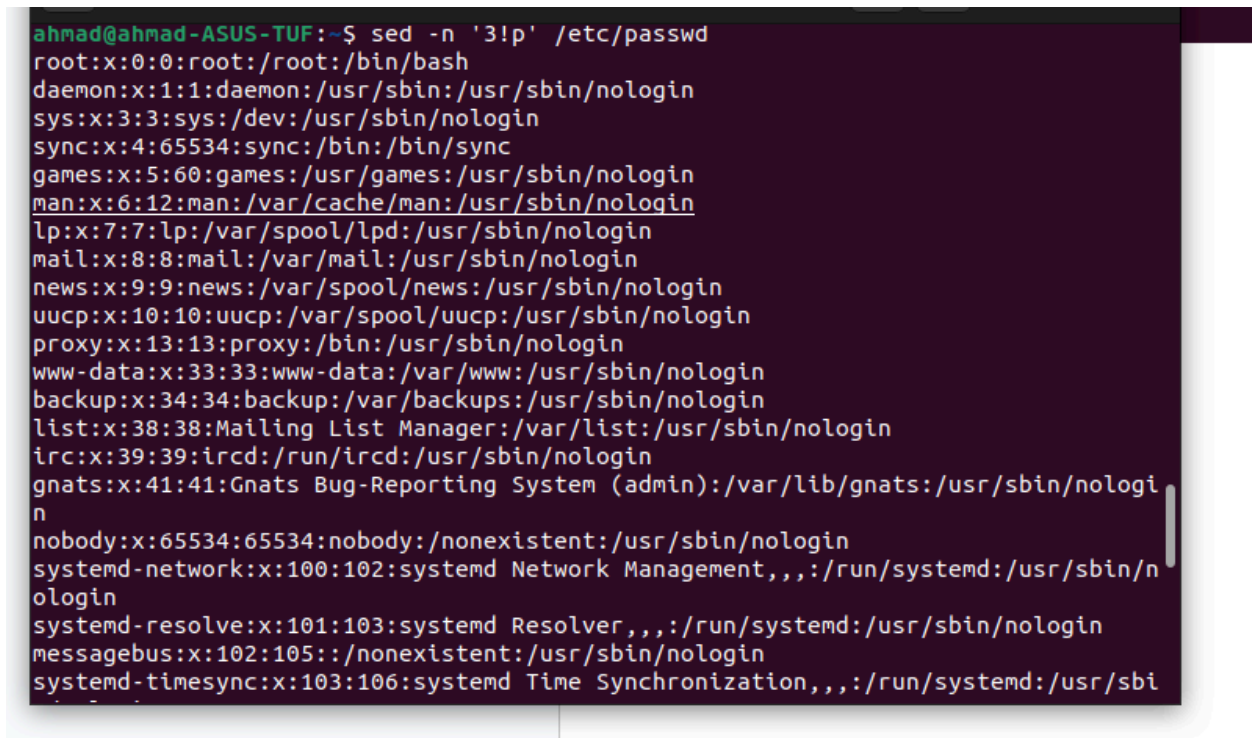Display the lines that contain the word lp in file etc/passwd?

```
ahmad@ahmad-ASUS-TUF: ~                    Q  ≡  —  □  ×

ahmad@ahmad-ASUS-TUF:~$ 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
ahmad@ahmad-ASUS-TUF:~$ 
```

Display all except the third line

```
ahmad@ahmad-ASUS-TUF:~$ sed -n '3!p' /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
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
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologi
n
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/n
ologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:102:105::/nonexistent:/usr/sbin/nologin
systemd-timesync:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbi
```

Display etc/passwd except the last line ?

```
ahmad@ahmad-ASUS-TUF:~$ sed -n '$!p' /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
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
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologi
n
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/n
ologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:102:105::/nonexistent:/usr/sbin/nologin
```

Display /etc/passwd file except the lines that contains lp

```
ahmad@ahmad-ASUS-TUF:~$ sed -n '/lp/d' /etc/passwd
ahmad@ahmad-ASUS-TUF:~$
```

Substitute all the words that contain lp with mylp

```
ahmad@ahmad-ASUS-TUF:~$ sed -n 's/lp/mylp/' /etc/passwd
ahmad@ahmad-ASUS-TUF:~$
```

6-

```
ahmad@ahmad-ASUS-TUF:~$ awk -F: '{print "# " $5}' /etc/passwd
# root
# daemon
# bin
# sys
# sync
# games
# man
# lp
# mail
# news
# uucp
# proxy
```

7-

```
ahmad@ahmad-ASUS-TUF:~$ awk -F: 'BEGIN { print "LineNo. Login Full Name (Comment
) Home Directory" }
{ printf "%d. %s %s %s\n", NR, $1, $5, $6 }
END { print "End of user list" }' /etc/passwd
LineNo. Login Full Name (Comment) Home Directory
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
15. list Mailing List Manager /var/list
16. irc ircd /run/ircd
```

8-

```
ahmad@ahmad-ASUS-TUF:~$ awk -F: 'BEGIN { print "Login UID Full Name (Comment)" }

$3 > 500 { printf "%s %d %s\n", $1, $3, $5 }
END { print "End of user list" }' /etc/passwd
Login UID Full Name (Comment)
nobody 65534 nobody
ahmad 1000 Ahmad,,,
End of user list
ahmad@ahmad-ASUS-TUF:~$ 
```

9-

```
ahmad@ahmad-ASUS-TUF:~$ awk -F: 'BEGIN { print "Login UID Full Name (Comment)" }

$3 == 500 { printf "%s %d %s\n", $1, $3, $5 }
END { print "End of user list" }' /etc/passwd
Login UID Full Name (Comment)
End of user list
ahmad@ahmad-ASUS-TUF:~$ 
```

10-

```
ahmad@ahmad-ASUS-TUF:~$ awk 'BEGIN { print "Lines 5 to 15 from /etc/passwd" }
NR >= 5 && NR <= 15 { print }
END { print "End of selected lines" }' /etc/passwd
Lines 5 to 15 from /etc/passwd
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
End of selected lines
ahmad@ahmad-ASUS-TUF:~$
```

11-

```
ahmad@ahmad-ASUS-TUF:~$ awk 'BEGIN { print "Modified /etc/passwd with lp changed
 to mylp" }
{
  if ($1 == "lp") {
    $1 = "mylp"
  }
  print
}
END { print "End of modified list" }' FS=":" OFS=":" /etc/passwd
Modified /etc/passwd with lp changed to mylp
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: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
```

12-

```
ahmad@ahmad-ASUS-TUF:~$ awk -F: '
BEGIN { max_uid = -1 }
{
  if ($3 > max_uid) {
    max_uid = $3
    max_line = $0
  }
}
END {
  print "User with the greatest UID:"
  print max_line
}' /etc/passwd
User with the greatest UID:
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
ahmad@ahmad-ASUS-TUF:~$
```

13-

```
ahmad@ahmad-ASUS-TUF:~$ awk -F: '
BEGIN { sum = 0 }
{
  sum += $3
}
END {
  print "Sum of all account IDs (UIDs): " sum
}' /etc/passwd
Sum of all account IDs (UIDs): 70093
ahmad@ahmad-ASUS-TUF:~$
```