

Using sed utility

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

```
basmla@basmla-Latitude-5590: ~  
basmla@basmla-Latitude-5590:~$ 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  
basmla@basmla-Latitude-5590:~$
```

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

```
Activities Terminal 11:33 8 جول 2023 en  
basmla@basmla-Latitude-5590: ~  
basmla@basmla-Latitude-5590:~$ 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:39:39:mailing list managers:/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  
systemd-timesync:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin  
syslog:x:104:111:nonexistent:/usr/sbin/nologin  
_apt:x:105:65534:nonexistent:/usr/sbin/nologin  
tss:x:106:113:TPM software stack,,,:/var/lib/tpm:/bin/false  
utidd:x:107:116:run/utidd:/usr/sbin/nologin  
systemd-oom:x:108:117:systemd Userspace OOM Killer,,,:/run/systemd:/usr/sbin/nologin  
tcpdump:x:109:118:nonexistent:/usr/sbin/nologin  
avahi-autoipd:x:110:119:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin  
usbmux:x:111:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin  
dnsmasq:x:112:65534:dnsmasq,,,:/var/lib/ndisc:/usr/sbin/nologin  
kernoops:x:113:65534:Kernel Oops Tracking Daemon,,,:/usr/sbin/nologin  
avahi:x:114:121:Avahi mDNS daemon,,,:/run/avahi-daemon:/usr/sbin/nologin  
cups-pk-helper:x:115:122:user for cups-pk-helper service,,,:/home/cups-pk-helper:/usr/sbin/nologin  
rktkit:x:116:123:RealtimeKit,,,:/proc:/usr/sbin/nologin  
whoopsie:x:117:124:nonexistent:/bin/false  
sssd:x:118:125:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin  
speech-dispatcher:x:119:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false  
fnupd-refresh:x:120:126:fnupd-refresh user,,,:/run/systemd:/usr/sbin/nologin  
nm-openvpn:x:121:127:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin  
saned:x:122:129:run/lib/saned:/usr/sbin/nologin  
colord:x:123:130:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin  
geoclue:x:124:131:run/lib/geoclue:/usr/sbin/nologin  
pulse:x:125:132:PulseAudio daemon,,,:/run/pulse:/usr/sbin/nologin  
gnome-initial-setup:x:126:65534:run/gnome-initial-setup:/bin/false  
hplip:x:127:77:HPLIP system user,,,:/run/hplip:/bin/false  
gdm:x:128:34:Gnome Display Manager:/var/lib/gdm3:/bin/false  
basmla:x:1000:1000:basmla,,,:/home/basmla:/bin/bash  
mysql:x:129:137:MySQL Server,,,:nonexistent:/bin/false  
basmla@basmla-Latitude-5590:~$
```

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

```
Activities Terminal 11:37 8 جول 2023 basmala@basmala-Latitude-5590: -
basmala@basmala-Latitude-5590:~$ sed -n 'Gip' /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:11:13: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:MailList Manager:/var/list:/usr/sbin/nologin
ircd:x:39:39: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:,:/run/systemd:/usr/sbin/nologin
systemd-timesync:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
syslog:x:104:111:,:/home/syslog:/usr/sbin/nologin
_aptl:x:105:65534:,:/nonexistent:/usr/sbin/nologin
tss:x:106:113:TPM software stack,,,:/var/lib/tpm:/bin/false
uuidd:x:107:110:,:/run/uuidd:/usr/sbin/nologin
systemd-oom:x:108:117:systemd Userspace OOM Killer,,,:/run/systemd:/usr/sbin/nologin
tcpdump:x:109:118:,:/nonexistent:/usr/sbin/nologin
avahi-autoipd:x:110:119:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
usbmux:x:111:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
dnsmasq:x:112:65534:dnsmasq,,,:/var/lib/ntsc:/usr/sbin/nologin
kernoops:x:113:65534:Kernel Oops Tracking Daemon,,,:/usr/sbin/nologin
avahi:x:114:121:Avahi mDNS daemon,,,:/run/avahi-daemon:/usr/sbin/nologin
cups-pk-helper:x:115:122:user for cups-pk-helper service,,,:/home/cups-pk-helper:/usr/sbin/nologin
rtkit:x:116:123:RealtimeKit,,,:/proc:/usr/sbin/nologin
whoopsie:x:117:124:,:/nonexistent:/bin/false
sssd:x:118:125:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin
speech-dispatcher:x:119:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false
fwupd-refresh:x:120:126:fwupd-refresh user,,,:/run/systemd:/usr/sbin/nologin
nm-openvpn:x:121:127:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
saned:x:122:129:,:/var/lib/saned:/usr/sbin/nologin
colord:x:123:130:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin
geoclue:x:124:131:,:/var/lib/geoclue:/usr/sbin/nologin
pulse:x:125:132:Pulseaudio daemon,,,:/run/pulse:/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
basmala:x:1000:1000:basmala,,,:/home/basmala:/bin/bash
basmala@basmala-Latitude-5590:~$
```

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

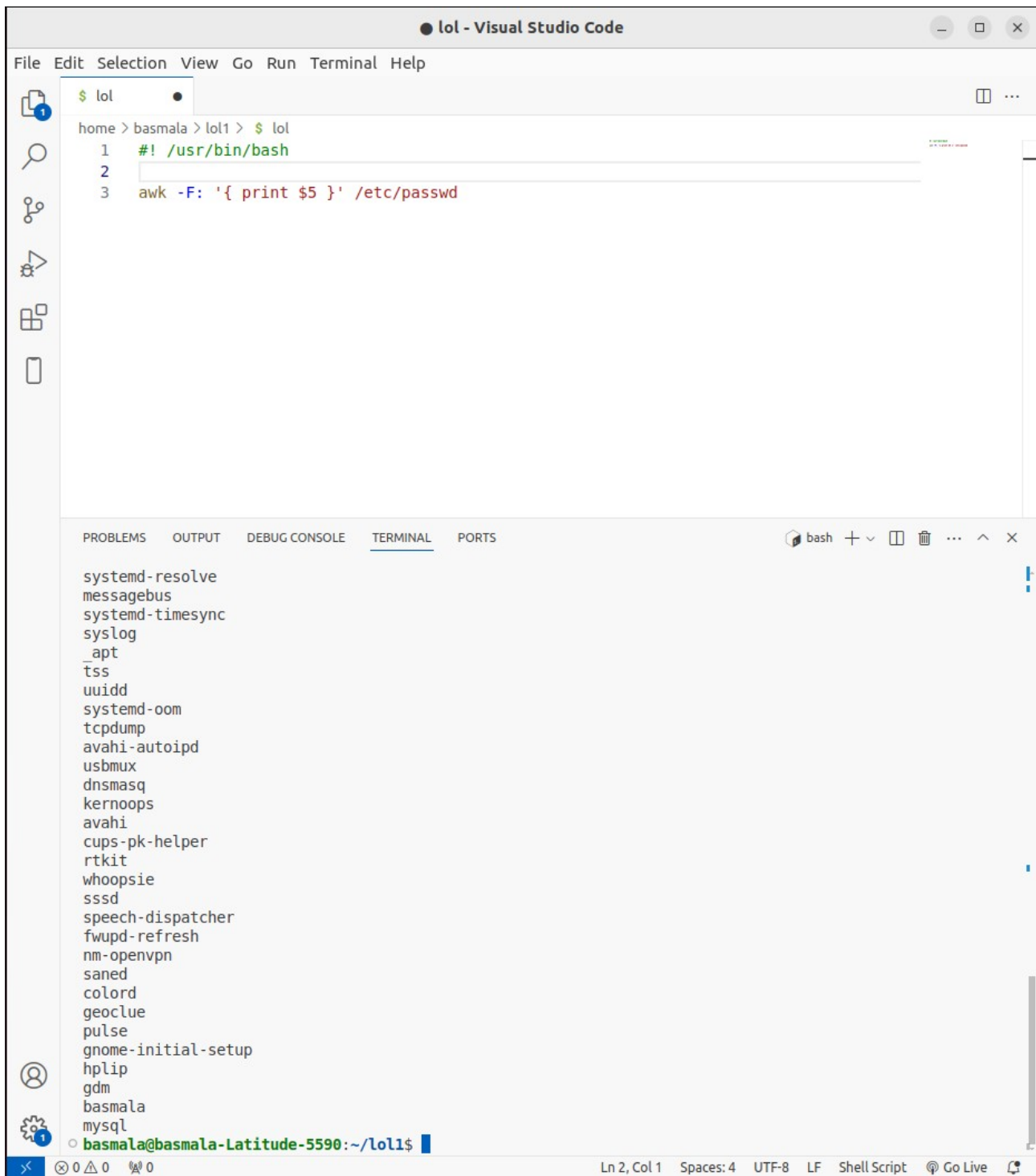
```
basmala@basmala-Latitude-5590: ~  
basmala@basmala-Latitude-5590:~$ sed 's/lp/d' /etc/passwd  
root:x:0:0:root:/root:/bin/bash  
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin  
bin:x:2:2:bin:/bin:/usr/sbin/nologin  
sys:x:3:3:sys:/dev:/usr/sbin/nologin  
sync:x:4:65534:sync:/bin:/bin/sync  
games:x:5:60:games:/usr/games:/usr/sbin/nologin  
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  
systemd-timesync:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin  
syslog:x:104:111:/:/home/syslog:/usr/sbin/nologin  
_apt:x:105:65534:/:/nonexistent:/usr/sbin/nologin  
tss:x:106:113:TPM software stack,,,:/var/lib/tpm:/bin/false  
uuidd:x:107:116:/:/run/uuidd:/usr/sbin/nologin  
systemd-oom:x:108:117:systemd Userspace OOM Killer,,,:/run/systemd:/usr/sbin/nologin  
tcpdump:x:109:118:/:/nonexistent:/usr/sbin/nologin  
avahi-autoipd:x:110:119:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin  
usbmux:x:111:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin  
dnsmasq:x:112:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin  
kernoops:x:113:65534:Kernel Oops Tracking Daemon,,,:/usr/sbin/nologin  
avahi:x:114:121:Avahi mDNS daemon,,,:/run/avahi-daemon:/usr/sbin/nologin  
rtkit:x:116:123:RealtimeKit,,,:/proc:/usr/sbin/nologin  
whoopsie:x:117:124:/:/nonexistent:/bin/false  
sssd:x:118:125:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin  
speech-dispatcher:x:119:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false  
fwupd-refresh:x:120:126:fwupd-refresh user,,,:/run/systemd:/usr/sbin/nologin  
nm-openvpn:x:121:127:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin  
saned:x:122:129:/:/var/lib/saned:/usr/sbin/nologin  
colord:x:123:130:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin  
geoclue:x:124:131:/:/var/lib/geoclue:/usr/sbin/nologin  
pulse:x:125:132:PulseAudio daemon,,,:/run/pulse:/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  
basmala:x:1000:1000:basmala,,,:/home/basmala:/bin/bash  
mysql:x:129:137:MySQL Server,,,:/nonexistent:/bin/false  
basmala@basmala-Latitude-5590:~$
```

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

```
basmla@basmla-Latitude-5590: ~  
basmla@basmla-Latitude-5590:~$ 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  
basmla@basmla-Latitude-5590:~$
```

Using awk utility

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



The image shows a Visual Studio Code window titled "lol - Visual Studio Code". The editor displays a file named "lol" with the following content:

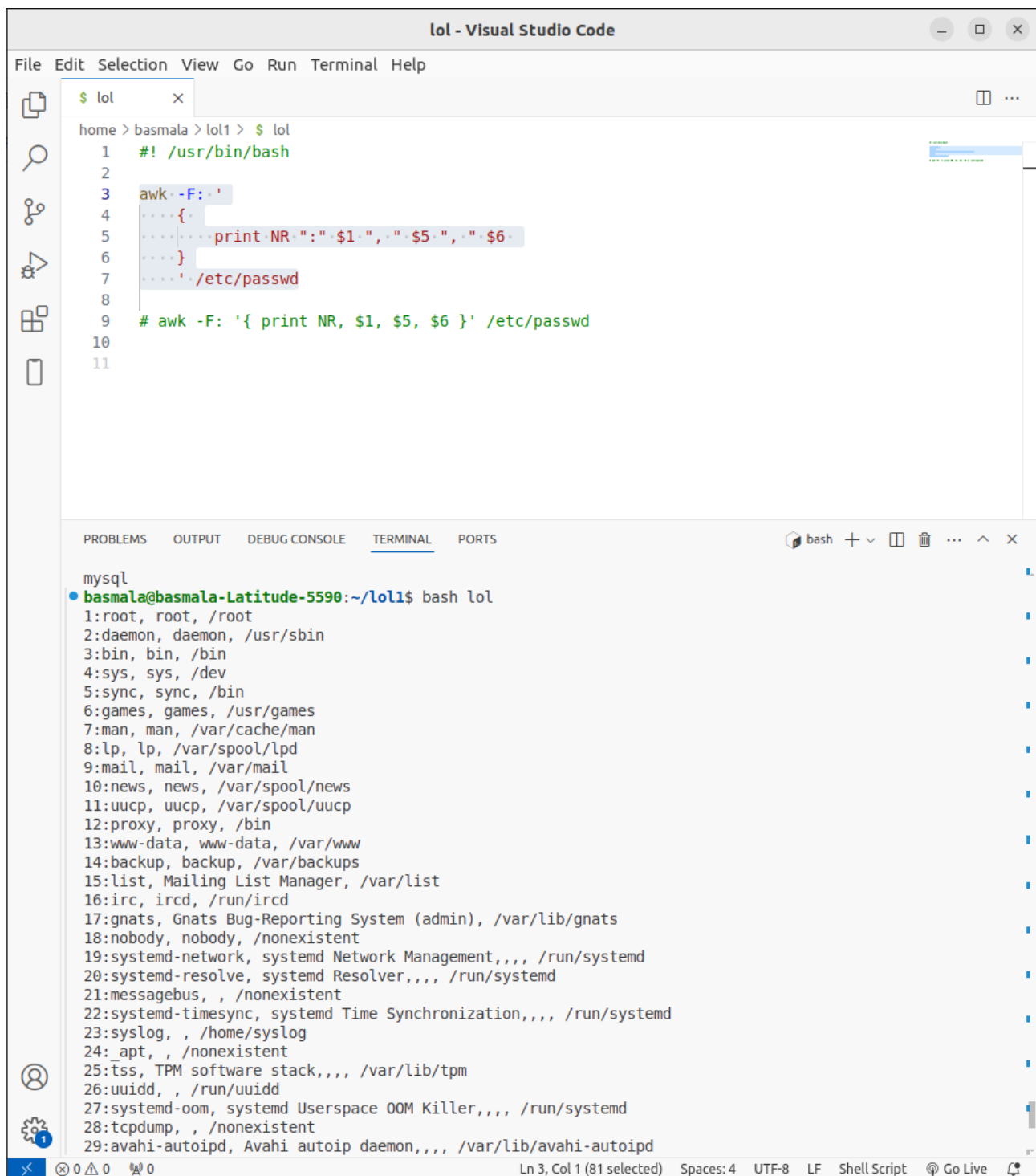
```
home > basmala > lol1 > $ lol
1  #!/usr/bin/bash
2
3  awk -F: '{ print $5 }' /etc/passwd
```

The terminal output shows the result of running the script, which lists the usernames of all users in the system:

```
systemd-resolve
messagebus
systemd-timesync
syslog
apt
tss
uuidd
systemd-oom
tcpdump
avahi-autoipd
usbmux
dnsmasq
kernoops
avahi
cups-pk-helper
rtkit
whoopsie
sssd
speech-dispatcher
fwupd-refresh
nm-openvpn
saned
colord
geoclue
pulse
gnome-initial-setup
hplip
gdm
basmala
mysql
basmala@basmala-Latitude-5590:~/lol1$
```

The status bar at the bottom indicates the current position is "Ln 2, Col 1", the file is a "Shell Script", and the encoding is "UTF-8".

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



The image shows a Visual Studio Code window titled "lol - Visual Studio Code". The editor displays a file named "lol" with the following content:

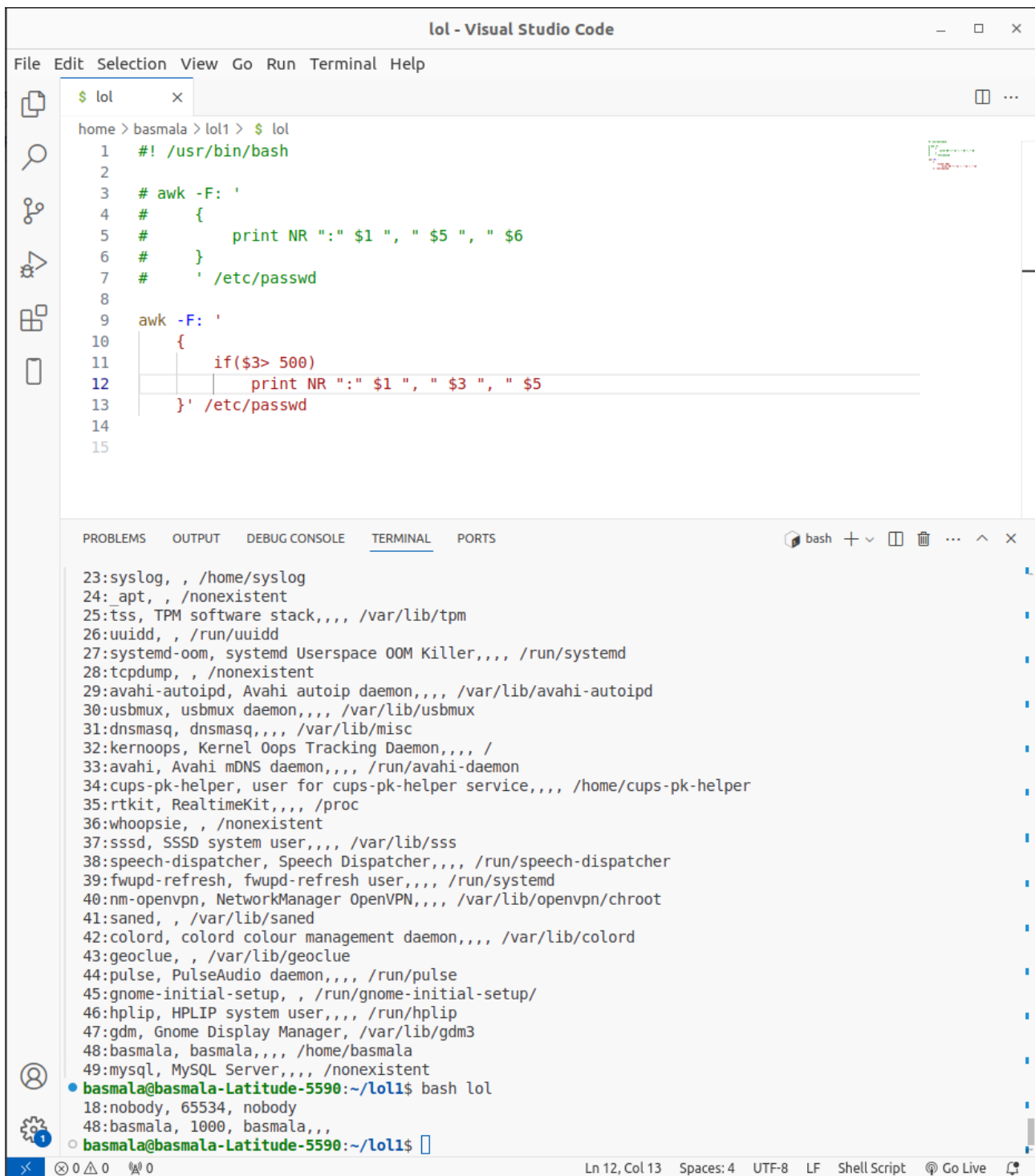
```
home > basmala > lol1 > $ lol
1  #!/usr/bin/bash
2
3  awk -F: '{
4      print NR ":" $1 " " $5 " " $6
5  }' /etc/passwd
6
7  # awk -F: '{ print NR, $1, $5, $6 }' /etc/passwd
```

The terminal at the bottom shows the execution of the script:

```
mysql
basmala@basmala-Latitude-5590:~/lol1$ bash lol
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
17:gnats, Gnats Bug-Reporting System (admin), /var/lib/gnats
18:nobody, nobody, /nonexistent
19:systemd-network, systemd Network Management,,, /run/systemd
20:systemd-resolve, systemd Resolver,,, /run/systemd
21:messagebus, , /nonexistent
22:systemd-timesync, systemd Time Synchronization,,, /run/systemd
23:syslog, , /home/syslog
24:apt, , /nonexistent
25:tss, TPM software stack,,, /var/lib/tpm
26:uuidd, , /run/uuidd
27:systemd-oom, systemd Userspace OOM Killer,,, /run/systemd
28:tcpdump, , /nonexistent
29:avahi-autoipd, Avahi autoip daemon,,, /var/lib/avahi-autoipd
```

The status bar at the bottom indicates "Ln 3, Col 1 (81 selected)", "Spaces: 4", "UTF-8", "LF", "Shell Script", and "Go Live".

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



The image shows a Visual Studio Code window titled "lol - Visual Studio Code". The editor displays a script named "lol" with the following content:

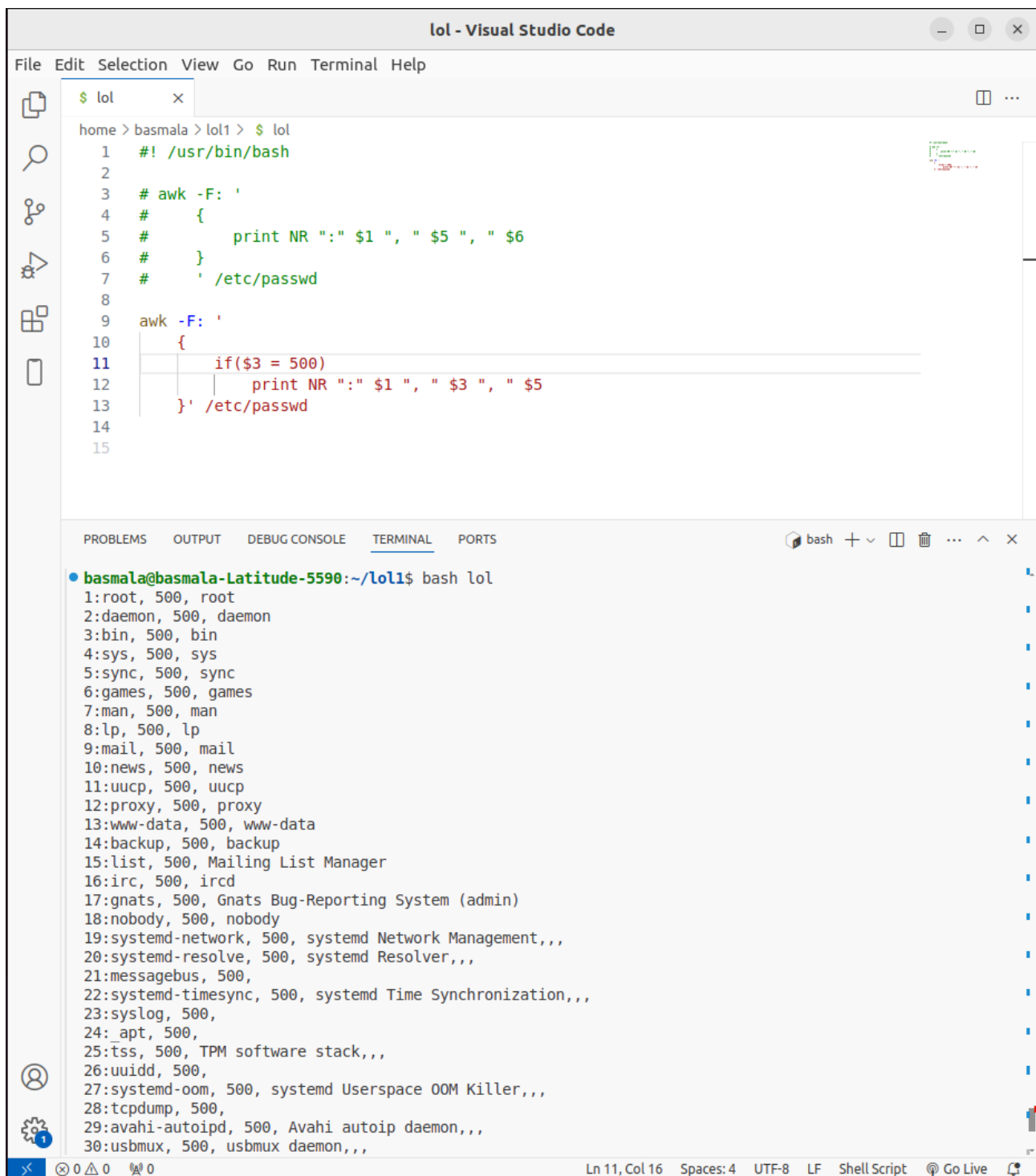
```
1  #!/usr/bin/bash
2
3  # awk -F: '
4  #   {
5  #       print NR ":" $1 " ", " $5 " ", " $6
6  #   }
7  #   ' /etc/passwd
8
9  awk -F: '
10 {
11     if($3> 500)
12         print NR ":" $1 " ", " $3 " ", " $5
13 }' /etc/passwd
14
15
```

The terminal output shows the execution of the script, displaying system users and their details. The output is as follows:

```
23:syslog, , /home/syslog
24: apt, , /nonexistent
25:tss, TPM software stack,,,, /var/lib/tpm
26:uuidd, , /run/uuidd
27:systemd-oom, systemd Userspace OOM Killer,,,, /run/systemd
28:tcpdump, , /nonexistent
29:avahi-autoipd, Avahi autoip daemon,,,, /var/lib/avahi-autoipd
30:usbmux, usbmux daemon,,,, /var/lib/usbmux
31:dnsmasq, dnsmasq,,,, /var/lib/misc
32:kernoops, Kernel Oops Tracking Daemon,,,, /
33:avahi, Avahi mDNS daemon,,,, /run/avahi-daemon
34:cups-pk-helper, user for cups-pk-helper service,,,, /home/cups-pk-helper
35:rtkit, RealtimeKit,,,, /proc
36:whoopsie, , /nonexistent
37:sssd, SSSD system user,,,, /var/lib/sss
38:speech-dispatcher, Speech Dispatcher,,,, /run/speech-dispatcher
39:fwupd-refresh, fwupd-refresh user,,,, /run/systemd
40:nm-openvpn, NetworkManager OpenVPN,,,, /var/lib/openvpn/chroot
41:saned, , /var/lib/saned
42:colord, colord colour management daemon,,,, /var/lib/colord
43:geoclue, , /var/lib/geoclue
44:pulse, PulseAudio daemon,,,, /run/pulse
45:gnome-initial-setup, , /run/gnome-initial-setup/
46:hplip, HPLIP system user,,,, /run/hplip
47:gdm, Gnome Display Manager, /var/lib/gdm3
48:basmla, basmla,,,, /home/basmla
49:mysql, MySQL Server,,,, /nonexistent
● basmla@basmla-Latitude-5590:~/lol1$ bash lol
18:nobody, 65534, nobody
48:basmla, 1000, basmla,,
○ basmla@basmla-Latitude-5590:~/lol1$
```

The status bar at the bottom indicates the current position is Line 12, Column 13, with 4 spaces, UTF-8 encoding, LF line endings, and Shell Script mode.

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



The screenshot shows the Visual Studio Code interface. The editor window displays a file named `lol` with the following content:

```
home > basmala > lol1 > $ lol
1  #!/usr/bin/bash
2
3  # awk -F: '
4  #      {
5  #          print NR ":" $1 " ", " $5 ", " $6
6  #      }
7  #      ' /etc/passwd
8
9  awk -F: '
10 {
11     if($3 = 500)
12         print NR ":" $1 " ", " $3 ", " $5
13     }' /etc/passwd
14
15
```

The terminal window shows the execution of the script:

```
bash
basmala@basmala-Latitude-5590:~/lol1$ bash lol
1:root, 500, root
2:daemon, 500, daemon
3:bin, 500, bin
4:sys, 500, sys
5:sync, 500, sync
6:games, 500, games
7:man, 500, man
8:lp, 500, lp
9:mail, 500, mail
10:news, 500, news
11:uucp, 500, uucp
12:proxy, 500, proxy
13:www-data, 500, www-data
14:backup, 500, backup
15:list, 500, Mailing List Manager
16:irc, 500, ircd
17:gnats, 500, Gnats Bug-Reporting System (admin)
18:nobody, 500, nobody
19:systemd-network, 500, systemd Network Management,,,
20:systemd-resolve, 500, systemd Resolver,,,
21:messagebus, 500,
22:systemd-timesync, 500, systemd Time Synchronization,,,
23:syslog, 500,
24: apt, 500,
25:tss, 500, TPM software stack,,,
26:uuidd, 500,
27:systemd-oom, 500, systemd Userspace OOM Killer,,,
28:tcpdump, 500,
29:avahi-autoipd, 500, Avahi autoip daemon,,,
30:usbmux, 500, usbmux daemon,,,
```

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

The image shows a Visual Studio Code window titled "lol - Visual Studio Code". The editor displays a shell script named "lol" with the following content:

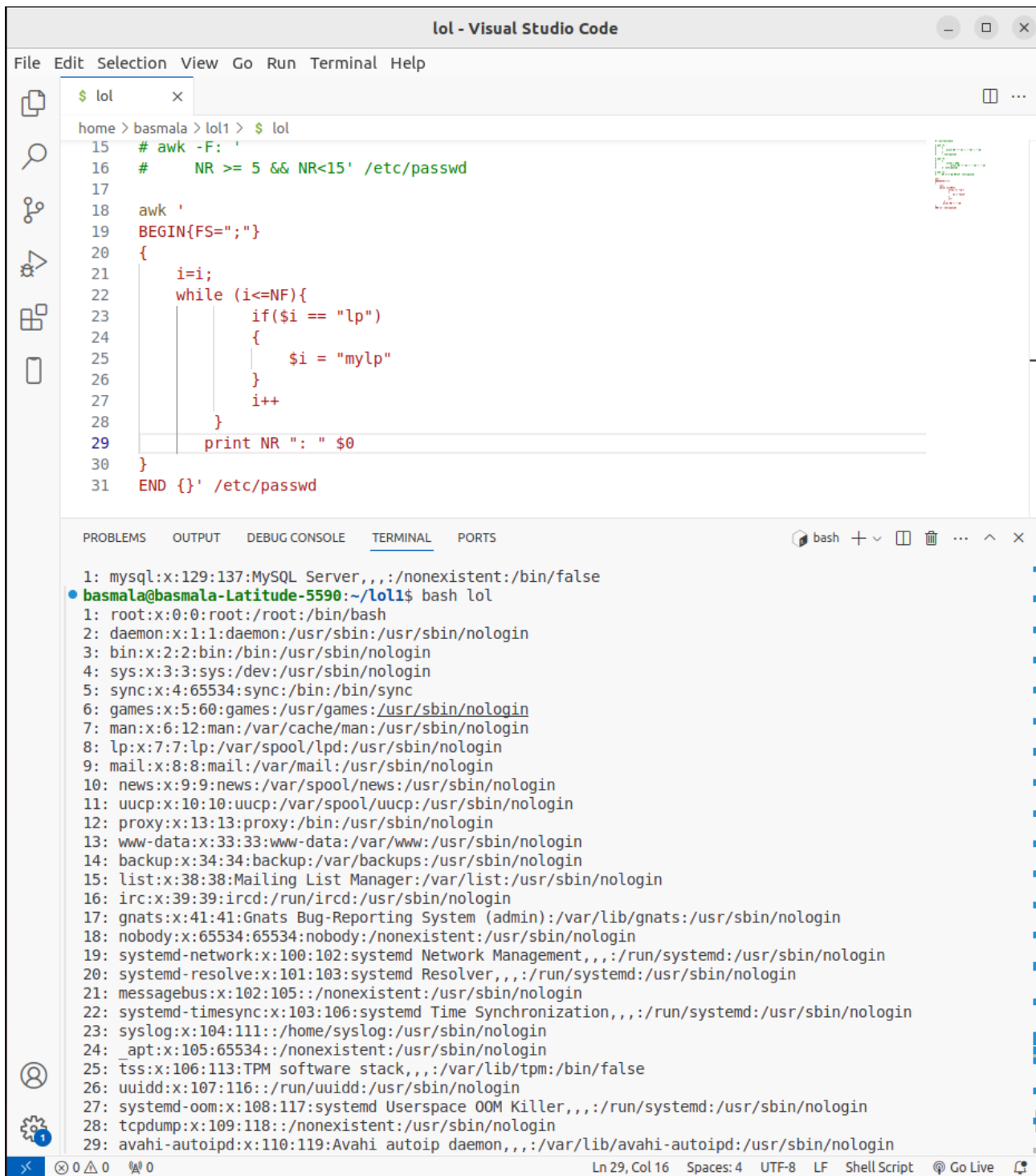
```
4 # {
5 #     print NR ":" $1 " ", " $5 ", " $6
6 # }
7 # ' /etc/passwd
8
9 # awk -F: '
10 # {
11 #     if($3 = 500)
12 #         print NR ":" $1 " ", " $3 ", " $5
13 #     }' /etc/passwd
14
15 awk -F: '
16 NR >= 5 && NR<15' /etc/passwd
```

The terminal at the bottom shows the execution of the script. It starts with the command `bash lol` and displays the output of the `awk` command, which lists system users from `/etc/passwd` where the UID is between 5 and 14. The output is:

```
12
13
14
• basmala@basmala-Latitude-5590:~/lol1$ bash lol
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
• basmala@basmala-Latitude-5590:~/lol1$ bash lol
awk: line 2: extra ')'
• basmala@basmala-Latitude-5590:~/lol1$ bash lol
• basmala@basmala-Latitude-5590:~/lol1$ bash lol
• basmala@basmala-Latitude-5590:~/lol1$ bash lol
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
○ basmala@basmala-Latitude-5590:~/lol1$
○ basmala@basmala-Latitude-5590:~/lol1$
```

The status bar at the bottom indicates the file is at line 16, column 5, with 4 spaces, UTF-8 encoding, LF line endings, and is a Shell Script.

6- Change lp to mylp



The image shows a Visual Studio Code window titled "lol - Visual Studio Code". The editor has a single file named "lol" open, containing an awk script. The script is as follows:

```
15 # awk -F: '
16 #     NR >= 5 && NR<15' /etc/passwd
17
18 awk '
19 BEGIN{FS=";"}
20 {
21     i=i;
22     while (i<=NF){
23         if($i == "lp")
24         {
25             $i = "mylp"
26         }
27         i++
28     }
29     print NR ": " $0
30 }
31 END {}' /etc/passwd
```

The terminal at the bottom shows the execution of the script. It starts with a prompt from a MySQL server, then the user runs "bash lol". The output lists system users from /etc/passwd, with the user "lp" (line 7) modified to "mylp".

```
1: mysql:x:129:137:MySQL Server,,,:/nonexistent:/bin/false
• basmala@basmala-Latitude-5590:~/lol1$ bash lol
1: root:x:0:0:root:/root:/bin/bash
2: daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
3: bin:x:2:2:bin:/bin:/usr/sbin/nologin
4: sys:x:3:3:sys:/dev:/usr/sbin/nologin
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: mylp: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
16: irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
17: gnats:x:41:41:Gnats Bug-Reporting System (admin)/var/lib/gnats:/usr/sbin/nologin
18: nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
19: systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
20: systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
21: messagebus:x:102:105:./nonexistent:/usr/sbin/nologin
22: systemd-timesync:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
23: syslog:x:104:111:./home/syslog:/usr/sbin/nologin
24: _apt:x:105:65534:./nonexistent:/usr/sbin/nologin
25: tss:x:106:113:TPM software stack,,,:/var/lib/tpm:/bin/false
26: uidd:x:107:116:./run/uid:/usr/sbin/nologin
27: systemd-oom:x:108:117:systemd Userspace OOM Killer,,,:/run/systemd:/usr/sbin/nologin
28: tcpdump:x:109:118:./nonexistent:/usr/sbin/nologin
29: avahi-autoipd:x:110:119:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
```

The status bar at the bottom indicates the cursor is at line 29, column 16, in a UTF-8 encoded file.

7- Print all information about greatest uid.

The image shows a Visual Studio Code window titled "lol - Visual Studio Code". The editor has a menu bar (File, Edit, Selection, View, Go, Run, Terminal, Help) and a sidebar with icons for Explorer, Search, Source Control, Run and Debug, and Extensions. The main editor area shows a file named "lol" with the following content:

```
$ lol
home > basmala > lol1 > $ lol
13 #      }' /etc/passwd
14
15 # awk -F: '
16 #      NR >= 5 && NR<15' /etc/passwd
17
18 awk -F: '
19 BEGIN{max = 1}
20 {
21     if ($3 > max)
22         max = $3;
23     maxuser= $0
24 }
25 END {print maxuser}' /etc/passwd
```

Below the editor is a terminal window with the title "bash". It displays the output of the script, which is a list of system users and their IDs, sorted by ID in descending order:

```
22: systemd-timesync:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
23: syslog:x:104:111::/home/syslog:/usr/sbin/nologin
24: _apt:x:105:65534::/nonexistent:/usr/sbin/nologin
25: tss:x:106:113:TPM software stack,,,:/var/lib/tpm:/bin/false
26: uidd:x:107:116::/run/uiddd:/usr/sbin/nologin
27: systemd-oom:x:108:117:systemd Userspace OOM Killer,,,:/run/systemd:/usr/sbin/nologin
28: tcpdump:x:109:118::/nonexistent:/usr/sbin/nologin
29: avahi-autoipd:x:110:119:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
30: usbmux:x:111:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
31: dnsmasq:x:112:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
32: kernoops:x:113:65534:Kernel Oops Tracking Daemon,,,:/usr/sbin/nologin
33: avahi:x:114:121:Avahi mDNS daemon,,,:/run/avahi-daemon:/usr/sbin/nologin
34: cups-pk-helper:x:115:122:user for cups-pk-helper service,,,:/home/cups-pk-helper:/usr/sbin/nologin
35: rtkit:x:116:123:RealtimeKit,,,:/proc:/usr/sbin/nologin
36: whoopsie:x:117:124::/nonexistent:/bin/false
37: sssd:x:118:125:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin
38: speech-dispatcher:x:119:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false
39: fwupd-refresh:x:120:126:fwupd-refresh user,,,:/run/systemd:/usr/sbin/nologin
40: nm-openvpn:x:121:127:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
41: saned:x:122:129::/var/lib/saned:/usr/sbin/nologin
42: colord:x:123:130:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin
43: geoclue:x:124:131::/var/lib/geoclue:/usr/sbin/nologin
44: pulse:x:125:132:PulseAudio daemon,,,:/run/pulse:/usr/sbin/nologin
45: gnome-initial-setup:x:126:65534::/run/gnome-initial-setup:/bin/false
46: hplip:x:127:7:HPLIP system user,,,:/run/hplip:/bin/false
47: gdm:x:128:134:Gnome Display Manager:/var/lib/gdm3:/bin/false
48: basmala:x:1000:1000:basmala,,,:/home/basmala:/bin/bash
49: mysql:x:129:137:MySQL Server,,,:/nonexistent:/bin/false
● basmala@basmala-Latitude-5590:~/lol1$ bash lol
mysql:x:129:137:MySQL Server,,,:/nonexistent:/bin/false
○ basmala@basmala-Latitude-5590:~/lol1$
```

The status bar at the bottom shows "Ln 23, Col 16", "Spaces: 4", "UTF-8", "LF", "Shell Script", and "Go Live".

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

lol - Visual Studio Code

File Edit Selection View Go Run Terminal Help

\$ lol x

home > basmala > lol1 > \$ lol

13 # }' /etc/passwd

14

15 # awk -F: '

16 # NR >= 5 && NR<15' /etc/passwd

17

18 awk -F: '

19 BEGIN{sum = 0}

20 {

21 | sum += \$3;

22 }

23 END {print sum}' /etc/passwd

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

bash + ▾ □ 🗑️ ⋮ ⌵ ✕

24: _apt:x:105:65534::/nonexistent:/usr/sbin/nologin

25: tss:x:106:113:TPM software stack,,,:/var/lib/tpm:/bin/false

26: uidd:x:107:116::/run/uid:/usr/sbin/nologin

27: systemd-oom:x:108:117:systemd Userspace OOM Killer,,,:/run/systemd:/usr/sbin/nologin

28: tcpdump:x:109:118::/nonexistent:/usr/sbin/nologin

29: avahi-autoipd:x:110:119:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin

30: usbmux:x:111:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin

31: dnsmasq:x:112:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin

32: kernoops:x:113:65534:Kernel Oops Tracking Daemon,,,:/usr/sbin/nologin

33: avahi:x:114:121:Avahi mDNS daemon,,,:/run/avahi-daemon:/usr/sbin/nologin

34: cups-pk-helper:x:115:122:user for cups-pk-helper service,,,:/home/cups-pk-helper:/usr/sbin/nologin

35: rtkit:x:116:123:RealtimeKit,,,:/proc:/usr/sbin/nologin

36: whoopsie:x:117:124::/nonexistent:/bin/false

37: sssd:x:118:125:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin

38: speech-dispatcher:x:119:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false

39: fwupd-refresh:x:120:126:fwupd-refresh user,,,:/run/systemd:/usr/sbin/nologin

40: nm-openvpn:x:121:127:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin

41: saned:x:122:129::/var/lib/saned:/usr/sbin/nologin

42: colord:x:123:130:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin

43: geoclue:x:124:131::/var/lib/geoclue:/usr/sbin/nologin

44: pulse:x:125:132:PulseAudio daemon,,,:/run/pulse:/usr/sbin/nologin

45: gnome-initial-setup:x:126:65534::/run/gnome-initial-setup:/bin/false

46: hplip:x:127:7:HPLIP system user,,,:/run/hplip:/bin/false

47: gdm:x:128:134:Gnome Display Manager:/var/lib/gdm3:/bin/false

48: basmala:x:1000:1000:basmala,,,:/home/basmala:/bin/bash

49: mysql:x:129:137:MySQL Server,,,:/nonexistent:/bin/false

● basmala@basmala-Latitude-5590:~/lol1\$ bash lol

mysql:x:129:137:MySQL Server,,,:/nonexistent:/bin/false

● basmala@basmala-Latitude-5590:~/lol1\$ bash lol

70222

○ basmala@basmala-Latitude-5590:~/lol1\$

Ln 23, Col 15 Spaces: 4 UTF-8 LF Shell Script Go Live