1. Activity 2:
2. Using sed utility
   a. Display the lines that contain the word "lp" in /etc/passwd file.

   ```
   [amal@192 ~]$ sed -n '/lp/p' /etc/passwd
   lp:x:4:7:lp:/var/spool/lpd:/sbin/nologin
   [amal@192 ~]$ 
   ```

   b. Display /etc/passwd file except the third line.

   ```
   [amal@192 ~]$ sed -n '3!p' /etc/passwd
   ```

   c. Display /etc/passwd file except the last line.

   ```
   [amal@192 ~]$ sed -n '$!p' /etc/passwd
   ```

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

   ```
   [amal@192 ~]$ sed -n '/lp/!p' /etc/passwd
   ```

   e. Substitute all the words that contain "lp" with "mylp" in /etc/passwd file

   ```
   [amal@192 ~]$ 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:x:4:7:mylp:/var/spool/mylpd:/sbin/nologin
   ```

3. Using awk utility
   a. Print full name (comment) of all users in the system.

   ```
   [amal@192 ~]$ awk -F':' '{print $5}' /etc/passwd
   root
   bin
   daemon
   adm
   lp
   sync
   shutdown
   halt
   mail
   operator
   games
   FTP User
   Nobody
   systemd Network Management
   ```

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

```
[amal@192 ~]$ awk -F':' '{print $1,$5,$6,NR}' /etc/passwd
root root /root 1
bin bin /bin 2
daemon daemon /sbin 3
adm adm /var/adm 4
lp lp /var/spool/lpd 5
sync sync /sbin 6
shutdown shutdown /sbin 7
halt halt /sbin 8
mail mail /var/spool/mail 9
operator operator /root 10
games games /usr/games 11
ftp FTP User /var/ftp 12
nobody Nobody / 13
systemd-network systemd Network Management / 14
dbus System message bus / 15
polkitd User for polkitd / 16
libstoragemgmt daemon account for libstoragemgmt /var/run/lsm 17
```

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

```
[amal@192 ~]$ awk -F':' '$3 > 500 {print $1,$3,$5}' /etc/passwd
polkitd 999 User for polkitd
libstoragemgmt 998 daemon account for libstoragemgmt
colord 997 User for colord
saned 996 SANE scanner daemon user
gluster 995 GlusterFS daemons
saslauth 994 Saslauthd user
setroubleshoot 993
chrony 992
unbound 991 Unbound DNS resolver
```

d. Print login, uid and full name (comment) of those uid is exactly 500

```
[amal@192 ~]$ awk -F':' '$3 = 500 {print $1,$3,$5}' /etc/passwd
root 500 root
bin 500 bin
daemon 500 daemon
adm 500 adm
lp 500 lp
sync 500 sync
shutdown 500 shutdown
halt 500 halt
mail 500 mail
operator 500 operator
games 500 games
ftp 500 FTP User
nobody 500 Nobody
```

e. Print line from 5 to 15 from /etc/passwd

```
[amal@192 ~]$ awk 'NR==5,NR==15' /etc/passwd
lp:x:4:7:lp:/var/spool/lpd:/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:99:99:Nobody:/:/sbin/nologin
systemd-network:x:192:192:systemd Network Management:/:/sbin/nologin
dbus:x:81:81:System message bus:/:/sbin/nologin
[amal@192 ~]$
```

f. Change lp to mylp

```
[amal@192 ~]$ awk -F: '{gsub("lp","mylp"); print $0}' /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:x:4:7:mylp:/var/spool/mylpd:/sbin/nologin
```

```
[amal@192 ~]$ awk -F: '{gsub("lp","mylp");if(NR==5) print $0}' /etc/passwd
mylp:x:4:7:mylp:/var/spool/mylpd:/sbin/nologin
```

g. Print all information about greatest uid.

```
[amal@192 ~]$ awk -F: '{print $3,$0}' /etc/passwd  | sort -n | tail -n 1
65534 nfsnobody:x:65534:65534:Anonymous NFS User:/var/lib/nfs:/sbin/nologin
[amal@192 ~]$
```

h. Get the sum of all accounts id's.

```
[amal@192 ~]$ awk -F: '{sum+= $3}END {print sum}' /etc/passwd
81219
```