Assignment 1

Q1. Download and use RollList.csv for this question. Assume that each y.....
→

awk script (q1.awk)

```awk
#!/usr/bin/gawk -f
BEGIN{
tot=0;
FS=",";
fee17=20000;
fee18=(1.1)*fee17;
fee19=(1.1)*fee18;
print "------Fee Calculator------";
}

{
 r=$1;
 if(r ~ /^..18/) tot+=fee18;
 if(r ~ /^..19/) tot+=fee19;
}

END{
 print tot;
}
```

Command Used

```
gawk -f q1.awk RollList.csv
```

Output

```
------Fee Calculator------
1859000
```

Screenshot

```
gokul@gokul-Inspiron-3250: ~/mm2090_assignment

gokul@gokul-Inspiron-3250:~/mm2090_assignment$ gawk -f q1.awk RollList.csv
------Fee Calculator------
1859000
gokul@gokul-Inspiron-3250:~/mm2090_assignment$ ▉
```

Q2. As part of data file submission to a platform, the admini...
→

awk script(q2.awk)

```awk
#!/usr/bin/gawk -f
BEGIN{
FS=",";
}


{
d=substr($1,1,2);
p=tolower(substr($1,5,1));
n=substr($1,6,3);
l=length($2);
printf("%s%s%i%s\n",d,n,l,p) ;
}

END{


}
```

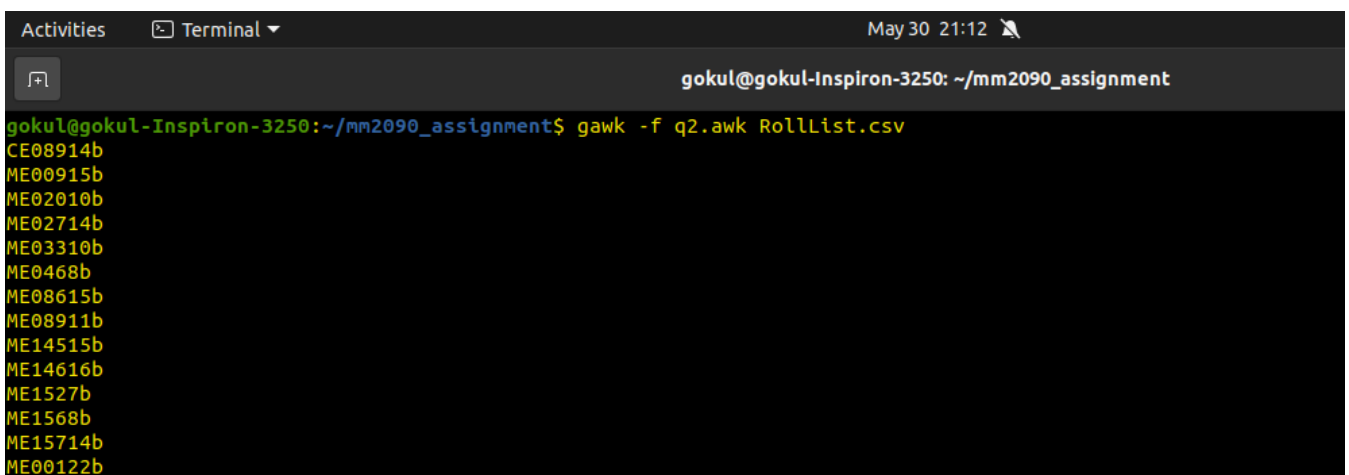**Command Used**

```
gawk -f q2.awk RollList.csv
```

Output

```
CE08914b
ME00915b
ME02010b
ME02714b
ME03310b
ME0468b
ME08615b
ME08911b
ME14515b
ME14616b
ME1527b
```

```
ME1568b
ME15714b
ME00122b
ME00312b
ME00312b
ME01211b
ME01312b
ME02323b
ME03520b
ME03611b
ME04815b
ME05218b
ME05722b
ME06014b
ME06114b
ME06311b
ME07617b
ME07916b
ME08210b
ME08519b
ME09112b
ME09515b
ME09815benter atomic no.
19
element choosed: K
its radius: 243
criterian for closeness:218.7-267.3 pm
elements in range
K
Rb
Sr
Ba
La
Pr
Sm
Eu
Gd
Tb
Dy
Ho
Er
Tm
Yb
Total elements in range: 15

ME10516b
ME10617b
ME10713b
ME10811b
ME11419b
ME12115b
ME12318b
ME12810b
ME13113b
ME13517b
```

```
ME14910b
ME15017b
ME15214b
ME15511b
ME15912b
ME1639b
ME16723b
ME17510b
ME17611b
ME17711b
ME17911b
ME18513b
MM03413b
MM00212b
MM0057b
MM00912b
MM01219b
MM01414b
MM01515b
MM01613b
MM01810b
MM02111b
MM02711b
MM02920b
MM03119b
MM03319b
MM0388b
MM04010b
MM04315b
MM04416b
MM0459b
MM04617b
MM04912b
MM05413b
```

Screenshot(only a portion of output)

Activities   Terminal ▾   May 30 21:12

gokul@gokul-Inspiron-3250: ~/mm2090_assignment

```
gokul@gokul-Inspiron-3250:~/mm2090_assignment$ gawk -f q2.awk RollList.csv
CE08914b
ME00915b
ME02010b
ME02714b
ME03310b
ME0468b
ME08615b
ME08911b
ME14515b
ME14616b
ME1527b
ME1568b
ME15714b
ME00122b
```

Q3. Download the file screenshots.tar.gz from course page on the mo....
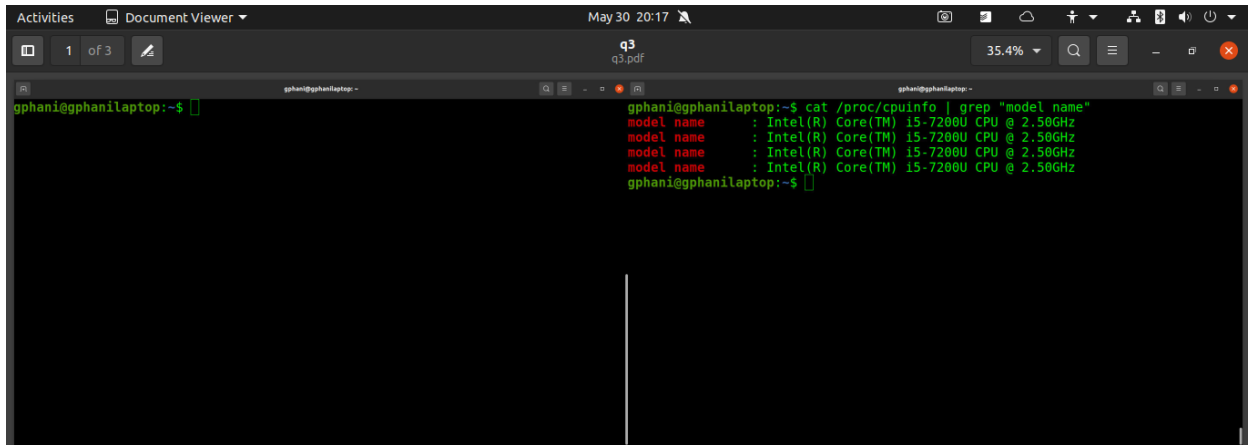
→

> **bash script**(q3.sh)

```bash
#!/usr/bin/bash
tar -xf screenshots.tar.gz
cd screenshots
echo "Enter the width of final image:"
read w
echo "Enter the height of final image:"
read h
echo "Enter the x pixel of top-left corner final image in original image:"
read x
echo "Enter the y pixel of top-left corner final image in original image:"
read y
j=1
count=6 #$(ls |wc -l)
for i in *
do
        convert  -crop $w\x$h\+$x\+$y "$i" "$j.jpg"
        j=$(echo $j + 1|bc)
done
k=2
c=1
while [ "$c" -eq 1 ]
do

        if test -f "$k.jpg"; then
                convert "$(echo $k - 1|bc).jpg" "$k.jpg" +append "a$(echo $k /
2|bc).jpg"
                k=$(echo $k + 2|bc)

        else
                c=0
        fi
done
b=1
((noofapp=count/2+1))
while [ "$b" -lt "$noofapp" ]
do
        im[$((b-1))]="a$b.jpg"
        ((b++))
done
convert "${im[@]}" "../q3.pdf"
cd ..
rm -r screenshots
```
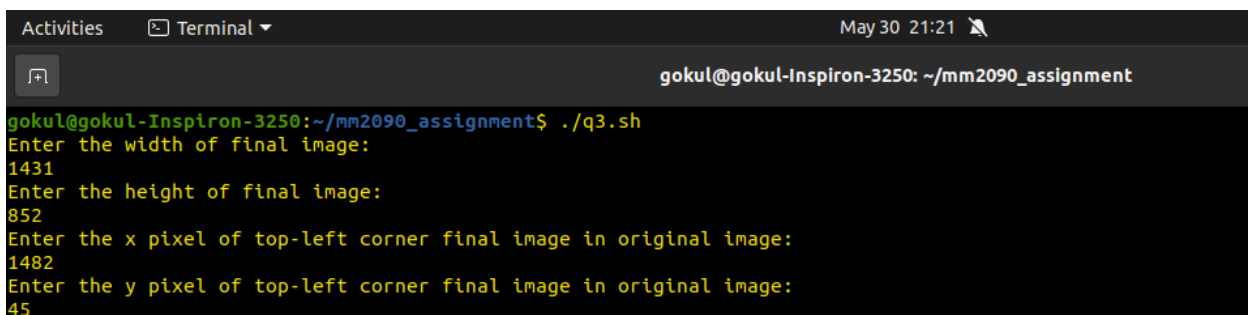
> **Command used**

```
./q3.sh
```

- PDF generate:(only a part of pdf)

- Execution

- Output pdf file

  drive link(use smail account)

Q4. Discuss within your group and pick one hardware item ty....
→
(e) Network switches for cluster(aka mac bridge)
`Major Manufacturer:Cisco`

- Connects computers network using packet switching

- Used at all scales from home to data centers

- There are different types of switch(L3,L2 etc), which are chosen as per their need in network architecture

Product	Bandwidth	100gb ports	40gb ports	25gb ports	10gb ports	10/100/100mb port	Pr
Catalyst 9600	25.6 Tbps	48	96	192	192	-	2.0 Int CF 8 c
Catalyst 9500	6.4-Tbps	32	32	48	48	-	Int GH CP

Product	Bandwidth	100gb ports	40gb ports	25gb ports	10gb ports	10/100/100mb port	Pr
Catalyst 9400	1.44 Tbps	0	2	2	200	384+392	Int GH

Q5. Download the transcripts of text chat from the google drive folder for th...
→

- csv file use [link 2 in question](#)

bash script(q5.sh)

```bash
#!/usr/bin/bash
tar -xf mm2090-apr2021-attendance.tar.gz
cd mm2090-apr2021-attendance
t=$(ls|wc -l)
echo "Total no. of class" $t
echo Enter roll nunber
read r
a=$(egrep -l $r *|wc -l)
p=$(echo 100*$a/$t|bc -l)
echo "Lectures missed"
egrep -L $r *|grep -o L..
echo Attendance $(echo $p|egrep -o "^[[:digit:]]+\...")\%
cd ..
rm -r mm2090-apr2021-attendance
```

Command used

```
./q5.sh
```

Output

```
Total no. of class 22
Enter roll nunber
mm20b020
Lectures missed
L04
L16
L18
L22
Attendance 81.81%
```

Screenshot

```
gokul@gokul-Inspiron-3250: ~/mm2090_assignment

gokul@gokul-Inspiron-3250:~/mm2090_assignment$ ./q5.sh
Total no. of class 22
Enter roll nunber
mm20b020
Lectures missed
L04
L16
L18
L22
Attendance 81.81%
```

Q6. In the following URLs, the atomic radii are given as a list that y....

→

> **bash script**

```bash
#!/usr/bin/bash
echo "enter atomic no."
read atno
r=$(cat q6.csv|gawk -v atno=$atno '{if($1==atno) print $5}')
cat q6.csv|gawk -v atno=$atno '{if($1==atno) {print "element choosed:",$2; print "its radius:",$5;}}'
echo "criterian for closeness:$(echo 0.9*$r|bc -l)-$(echo 1.1*$r|bc -l) pm"
cat q6.csv|gawk -v r=$r 'BEGIN{c=0; print "elements in range"}{if($5>=0.9*r&&$5<=1.1*r){c++;print $2}}END{print "Total elements in range:",c}'
```

> **Command used**

```
./q6.sh
```

> **Output**

```
enter atomic no.
20
element choosed: Ca
its radius: 194
criterian for closeness:174.6-213.4 pm
elements in range
Na
Ca
Sc
Ti
Y
Zr
Nb
Mo
Tc
Ru
Ce
```

```
 Nd
 Pm
 Hf
 Ta
 W
 Re
 Os
 Ir
 Pt
Total elements in range: 20
```

```
gokul@gokul-Inspiron-3250:~/mm2090_assignment$ ./q6.sh
enter atomic no.
20
element choosed: Ca
its radius: 194
criterian for closeness:174.6-213.4 pm
elements in range
Na
Ca
Sc
Ti
Y
Zr
Nb
Mo
Tc
Ru
Ce
Nd
Pm
Hf
Ta
W
Re
Os
Ir
Pt
Total elements in range: 20
```