4. a. Build a shell script to display the system space used. If it is greater than 80%, display as Low system Space and list the files having size greater than 1GB. Set up a cron job for the above-developed script to execute every Monday morning 10AM

Make sure you create your own directory under /home/exam.

mkdir scr

cd scr

vi 4a.sh

And the directory also contains w.txt and t.txt which are used in above script.

touch t.txt w.txt

Creating 1GB files

There are 2 files 2.txt and 3.txt of 1G are created

Output:-

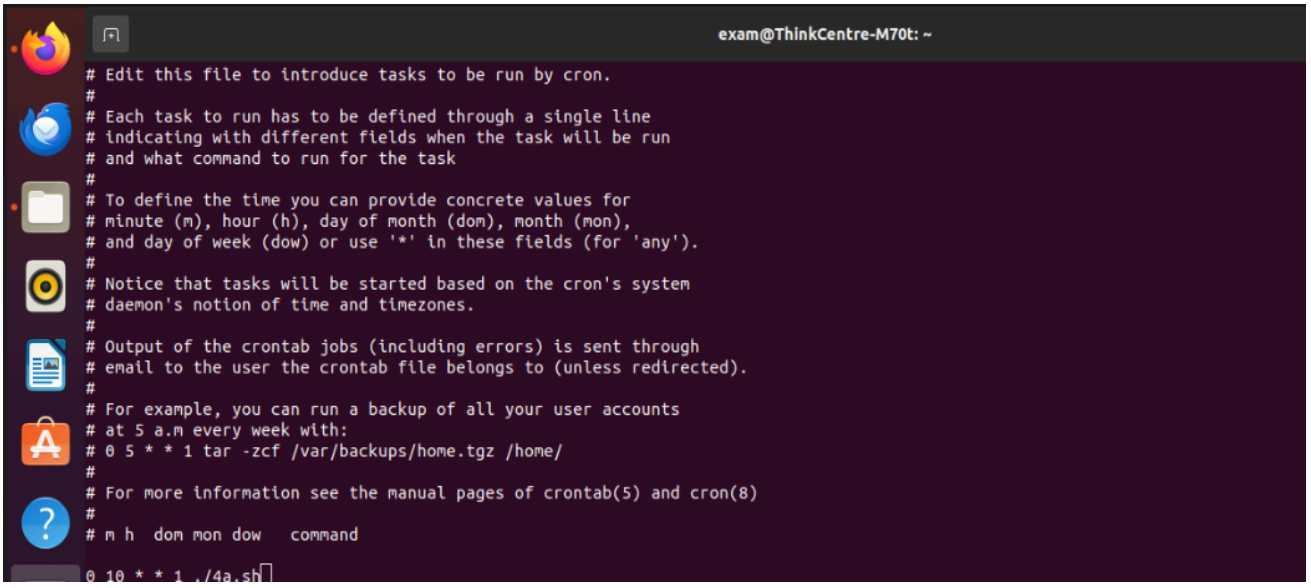
```
0
1
31
0
1
0
100
100
100
100
100
100
100
100
100
100
100
100
100
100
100
100
100
100
100
100
100
33
1
yes directory contains file size more than 500M or near to 1GB
```

Now check w.txt for GB files. The script searches for GB files and writes to w.txt.

```
exam@ThinkCentre-M70t:~/trr$ cat w.txt
./3.txt
./2.txt
```

Setting up a cron Job.

```
exam@ThinkCentre-M70t:~$ /usr/bin/crontab -e
crontab: installing new crontab
```



```
exam@ThinkCentre-M70t:~$ /usr/bin/crontab -l
# Edit this file to introduce tasks to be run by cron.
#
# Each task to run has to be defined through a single line
# indicating with different fields when the task will be run
# and what command to run for the task
#
# To define the time you can provide concrete values for
# minute (m), hour (h), day of month (dom), month (mon),
# and day of week (dow) or use '*' in these fields (for 'any').
#
# Notice that tasks will be started based on the cron's system
# daemon's notion of time and timezones.
#
# Output of the crontab jobs (including errors) is sent through
# email to the user the crontab file belongs to (unless redirected).
#
# For example, you can run a backup of all your user accounts
# at 5 a.m every week with:
# 0 5 * * 1 tar -zcf /var/backups/home.tgz /home/
#
# For more information see the manual pages of crontab(5) and cron(8)
#
# m h  dom mon dow   command

0 10 * * 1 ./4a.sh
exam@ThinkCentre-M70t:~$
```

4b. Write a shell program to count a number of words, characters, white spaces, and special symbols in each text and display the output on standard output. Set a cronjob to execute above script every 3rd day of week morning 9 AM.

```
exam@ThinkCentre-M70t:~$ vi 4b.sh
exam@ThinkCentre-M70t:~$
```

exam@ThinkCentre-M70t: ~

```
#!/bin/bash
echo "read a string"
read string
words=$(echo -n "$string" | wc -w)
chars=$(echo -n "$string" |wc -c)
space=$(expr length "$string" - length `echo "$string" | sed "s/ //g"`)
specialsymbols=$(echo $string|grep -o [^A-Za-z0-9_[:space:]] |wc -l)
echo "The number of words=$words"
echo "The number of characters=$chars"
echo "The number of white spaces=$space"
echo "Number of special symbols=$specialsymbols"
```

Output:-

exam@ThinkCentre-M70t: ~

```
exam@ThinkCentre-M70t:~$ sh 4b.sh
read a string
hai students$%#
The number of words=2
The number of characters=15
The number of white spaces=1
Number of special symbols=3
exam@ThinkCentre-M70t:~$
```

Setting cron Job

/usr/bin/crontab -e

0 9 3 * * ./4b.sh