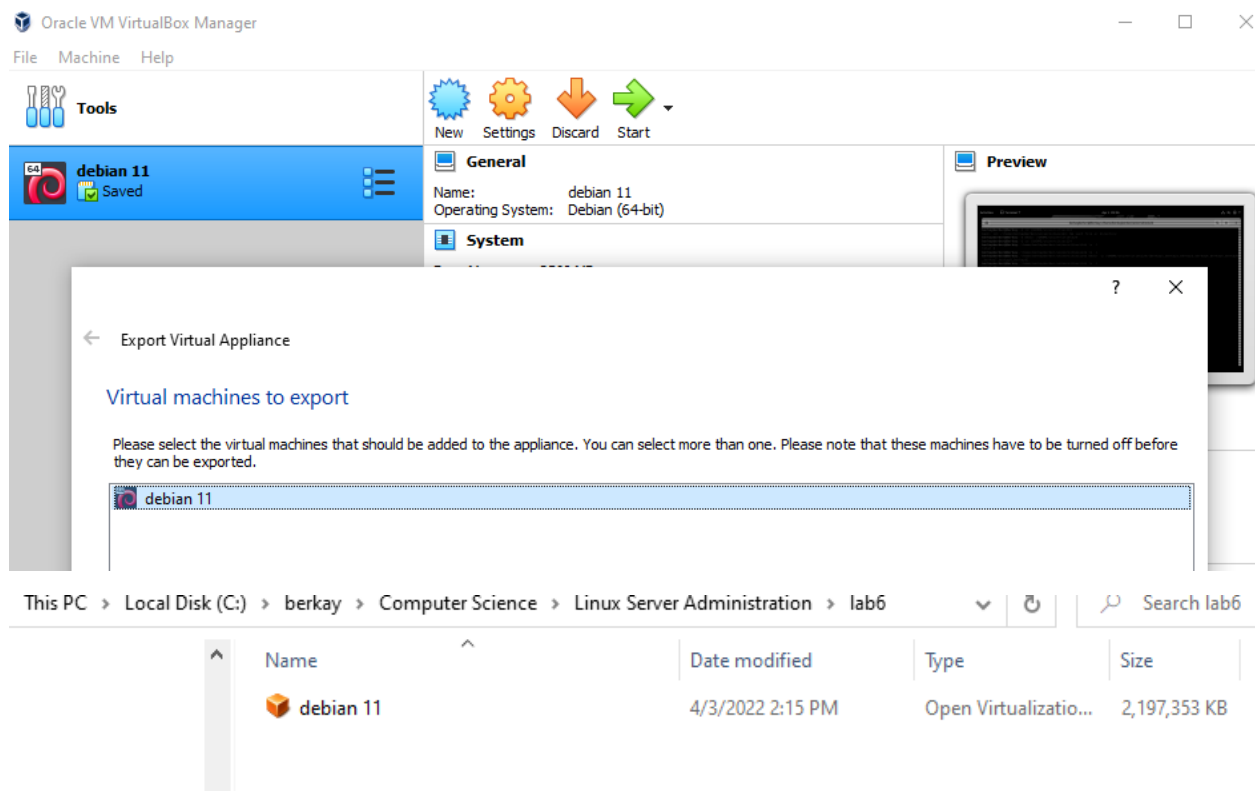
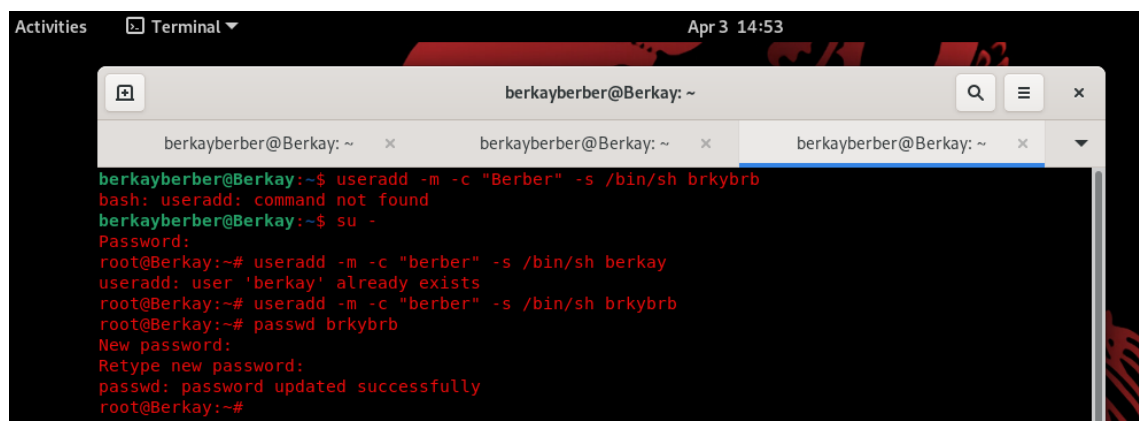


Task1.1) -> Backing up the data exporting from virtual machine to another file In order to keep the virtual machine safe in case of a deletion.



Task 1.2, 1.3) -> Create a new user account and rename with "YourReallyLastName".



Installation of quota software;

```
Activities Terminal Apr 3 15:51
berkayberber@Berkay: ~
berkayberber@Berkay: ~
berkayberber@Berkay: ~
berkayberber@Berkay: ~
Hit:3 http://deb.debian.org/debian bullseye-updates InRelease
Reading package lists... Done
root@Berkay:~# apt install quota
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Suggested packages:
  libnet-ldap-perl rpcbind default-mta | mail-transport-agent
The following NEW packages will be installed:
  quota
0 upgraded, 1 newly installed, 0 to remove and 69 not upgraded.
Need to get 259 kB of archives.
After this operation, 1,455 kB of additional disk space will be used.
Get:1 http://deb.debian.org/debian bullseye/main amd64 quota amd64 4.06-1 [259 kB]
Fetched 259 kB in 0s (556 kB/s)
Preconfiguring packages ...
Selecting previously unselected package quota.
(Reading database ... 144196 files and directories currently installed.)
Preparing to unpack .../quota_4.06-1_amd64.deb ...
Unpacking quota (4.06-1) ...
Setting up quota (4.06-1) ...
Processing triggers for man-db (2.9.4-2) ...
root@Berkay:~#
```

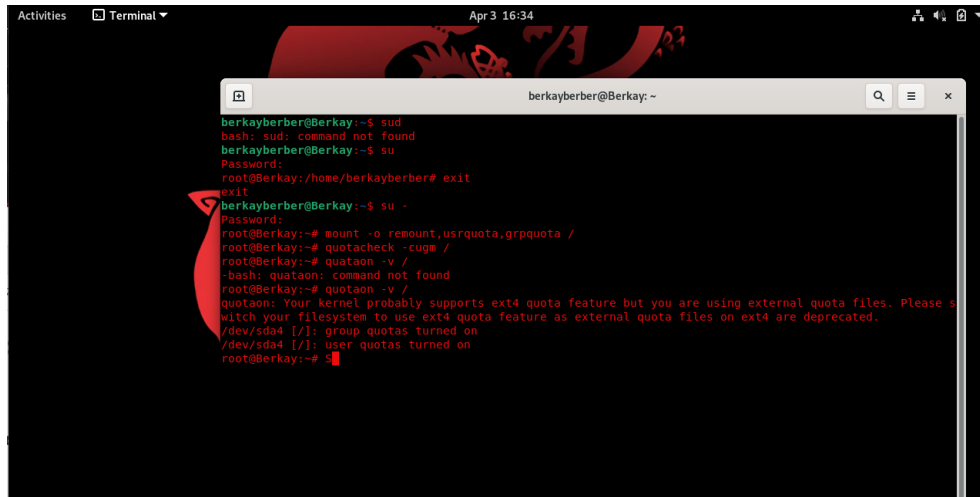
Added usrquota and groquota options to /etc/fstab before reboot to enable quota in it.

```
Activities Terminal Apr 3 16:20
berkayberber@Berkay: ~
berkayberber@Berkay: ~
berkayberber@Berkay: ~
berkayberber@Berkay: ~
GNU nano 5.4 /etc/fstab *
# /etc/fstab: static file system information.
#
# Use 'blkid' to print the universally unique identifier for a
# device; this may be used with UUID= as a more robust way to name devices
# that works even if disks are added and removed. See fstab(5).
#
# systemd generates mount units based on this file, see systemd.mount(5).
# Please run 'systemctl daemon-reload' after making changes here.
#
# <file system> <mount point> <type> <options> <dump> <pass>
# / was on /dev/sda4 during installation
UUID=b98aca23-c76a-412f-a7d5-f8af3886bfa6 / ext4 errors=remount-ro,usrquota,grpquota 0 1
# /boot/efi was on /dev/sda1 during installation
UUID=5651-7174 /boot/efi vfat umask=0077 0 1
# swap was on /dev/sda2 during installation
UUID=a450ae86-515e-48ad-9e74-08340e955ccc none swap sw 0 0
# swap was on /dev/sda3 during installation
UUID=51d6eacf-96aa-4554-992c-246c144a97dd none swap sw 0 0
/dev/sr0 /media/cdrom0 udf,iso9660 user,noauto 0 0
[ Replaced 1 occurrence ]
^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location M-U Undo
^X Exit ^R Read File ^_ Replace ^U Paste ^J Justify ^_ Go To Line M-E Redo
```

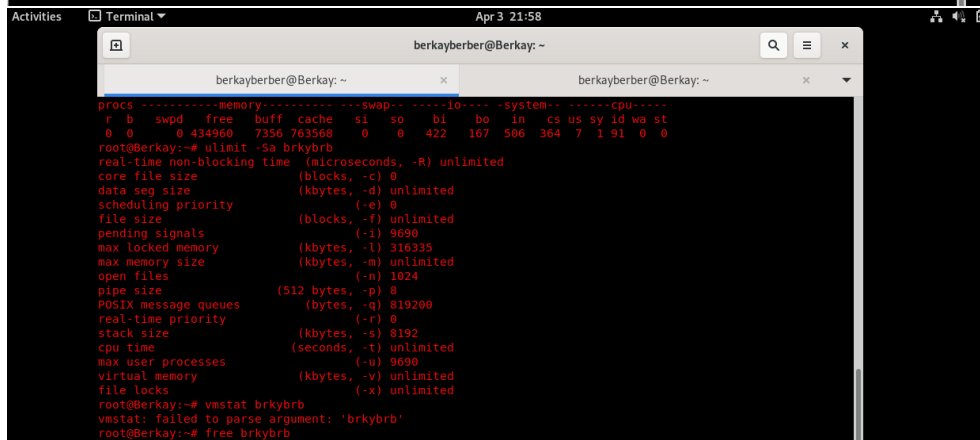
`mount -o remount,usrquota,grpquota / -> To temporarily enable quota on the root filesystem`

`Quotacheck -cugm / -> To use both user and group quota`

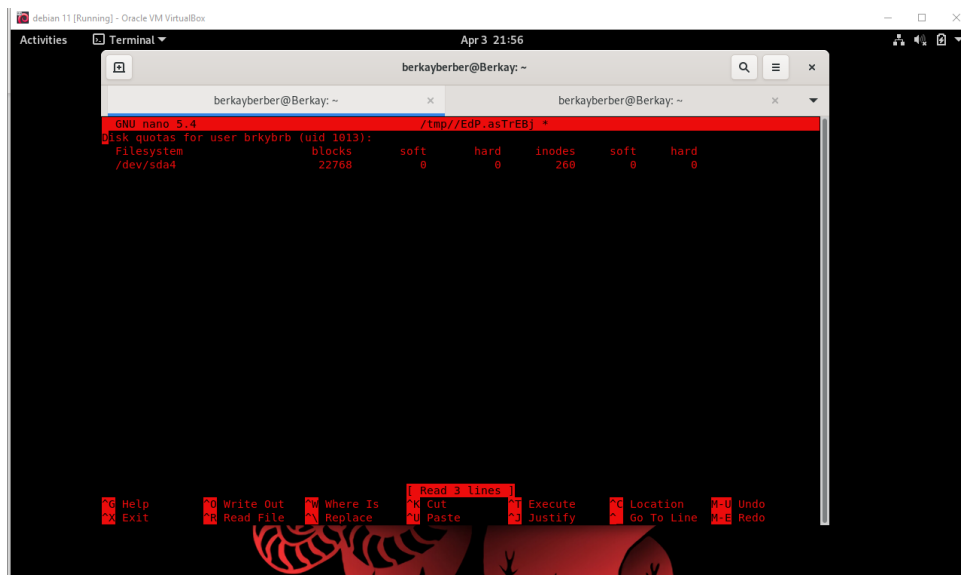
`quotaon -v / -> turn on quota on the root (/) filesystem`



```
berkayberber@Berkay: ~  
berkayberber@Berkay:~$ sudo  
bash: sudo: command not found  
berkayberber@Berkay:~$ su  
Password:  
root@Berkay:/home/berkayberber# exit  
exit  
berkayberber@Berkay:~$ su -  
Password:  
root@Berkay:~# mount -o remount,usrquota,grpquota /  
root@Berkay:~# quotacheck -cugm /  
root@Berkay:~# quotaon -v /  
-bash: quotaon: command not found  
root@Berkay:~# quotaon -v /  
quotaon: Your kernel probably supports ext4 quota feature but you are using external quota files. Please switch your filesystem to use ext4 quota feature as external quota files on ext4 are deprecated.  
/dev/sda4 [/]: group quotas turned on  
/dev/sda4 [/]: user quotas turned on  
root@Berkay:~#
```



```
berkayberber@Berkay: ~  
berkayberber@Berkay:~$  
procs -----memory----- --swapp-- -----io----- -system-- -----cpu-----  
r b swpd free buff cache si so bi bo in cs us sy id wa st  
0 0 0 434960 7356 763568 0 0 422 167 506 364 7 1 91 0 0  
root@Berkay:~# ulimit -Sa brkybrb  
real-time non-blocking time (microseconds, -R) unlimited  
core file size (blocks, -c) 0  
data seg size (kbytes, -d) unlimited  
scheduling priority (-e) 0  
file size (blocks, -f) unlimited  
pending signals (-i) 9690  
max locked memory (kbytes, -l) 316335  
max memory size (kbytes, -m) unlimited  
open files (-n) 1024  
pipe size (512 bytes, -p) 8  
POSIX message queues (bytes, -q) 819200  
real-time priority (-r) 0  
stack size (kbytes, -s) 8192  
cpu time (seconds, -t) unlimited  
max user processes (-u) 9690  
virtual memory (kbytes, -v) unlimited  
file locks (-x) unlimited  
root@Berkay:~# vmstat brkybrb  
vmstat: failed to parse argument: 'brkybrb'  
root@Berkay:~# free brkybrb
```

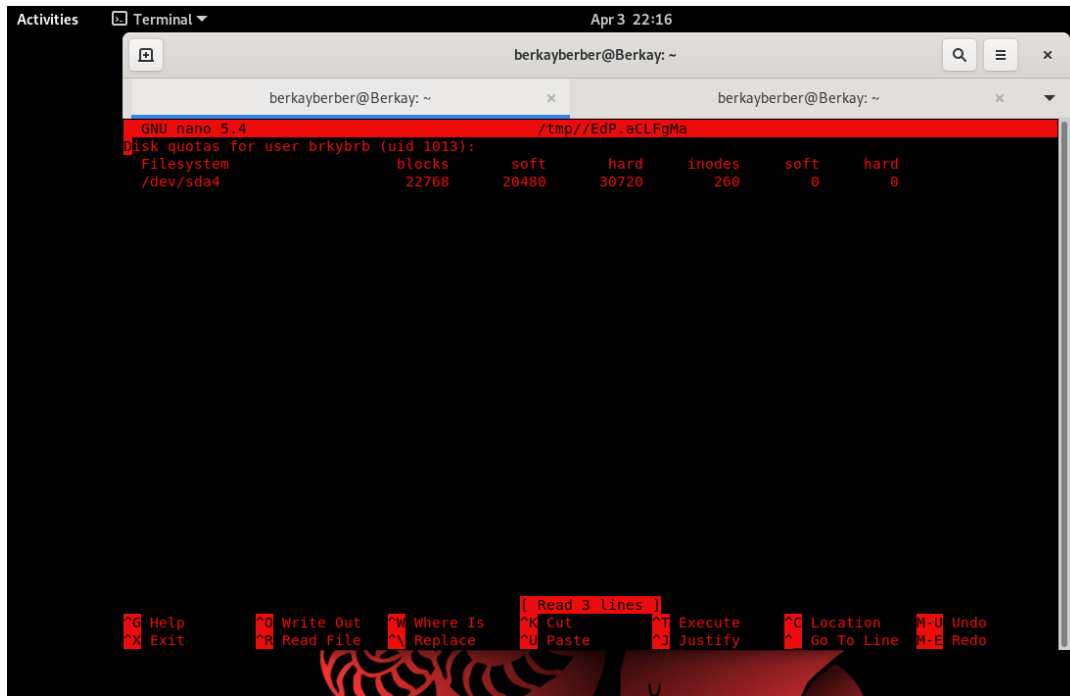


```
berkayberber@Berkay: ~  
berkayberber@Berkay:~$  
GNU nano 5.4 /tmp/.E0P.asTrEB +  
Disk quotas for user brkybrb (uid 1012):  
filesystem blocks soft hard inodes soft hard  
/dev/sda4 22768 0 0 260 0 0
```

edquota -u brkybrb command used to edit user/group quotas

As presented at the below picture, soft set as 20M and hard is: 30M using command:

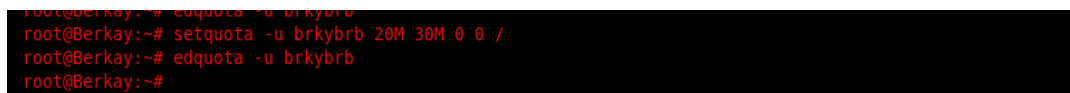
setquota -u brkybrb 20M 30M 0 0 /



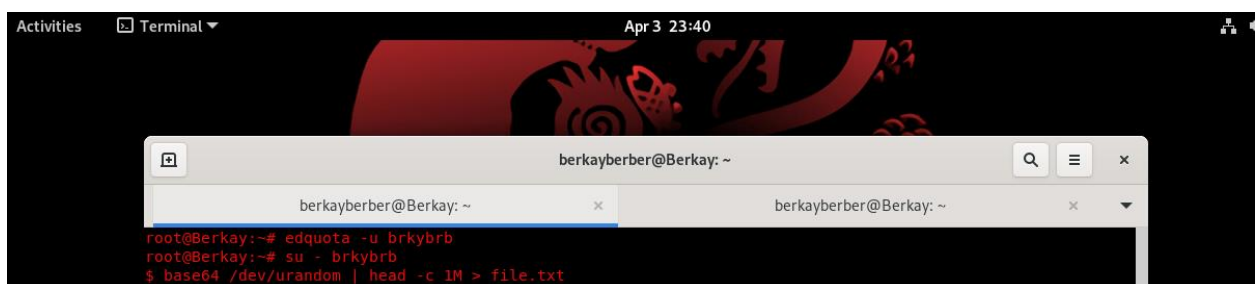
A terminal window titled 'berkayberber@Berkay: ~' showing the output of the 'edquota' command in nano editor. The output displays disk quotas for user 'brkybrb' (uid 1013) on the filesystem '/dev/sda4'. The table shows current usage and limits for blocks, soft, hard, inodes, soft, and hard.

Filesystem	blocks	soft	hard	inodes	soft	hard
/dev/sda4	22768	20480	30720	260	0	0

The command in order to set soft and hard limit is:

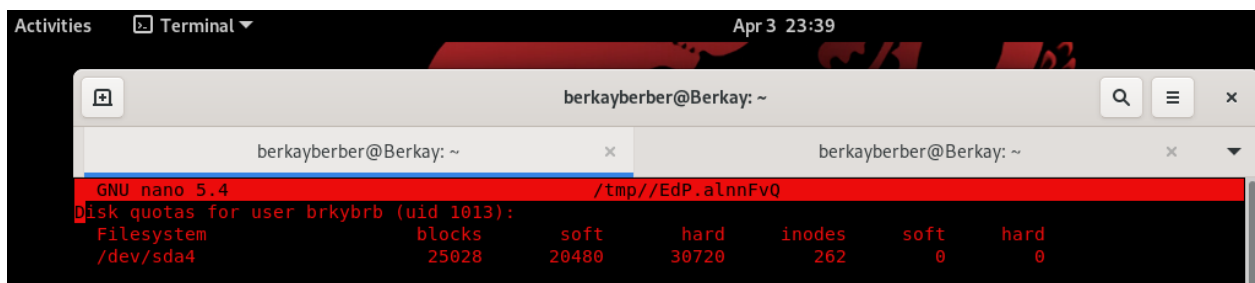


```
root@Berkay:~# edquota -u brkybrb
root@Berkay:~# setquota -u brkybrb 20M 30M 0 0 /
root@Berkay:~# edquota -u brkybrb
root@Berkay:~#
```



```
root@Berkay:~# edquota -u brkybrb
root@Berkay:~# su - brkybrb
$ base64 /dev/urandom | head -c 1M > file.txt
```

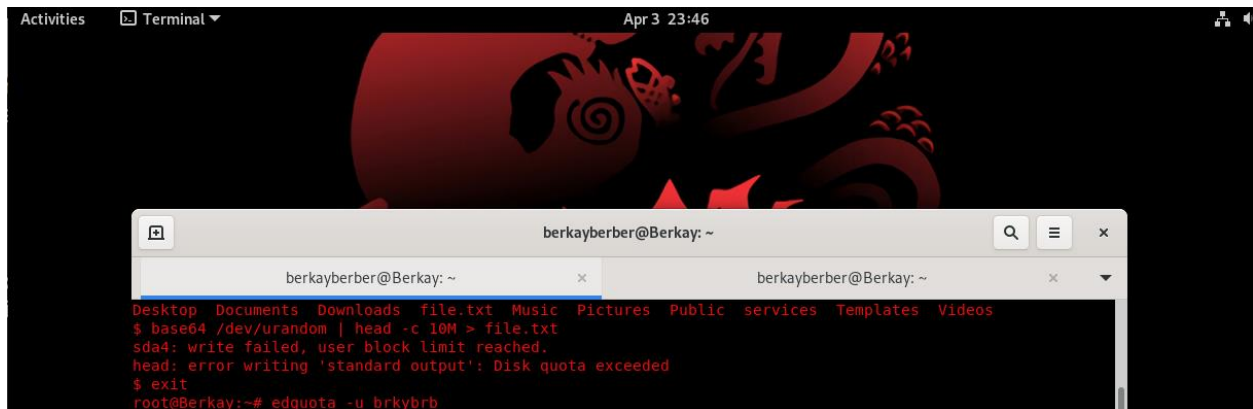
base64 /dev/urandom | head -c 1M > file.txt'



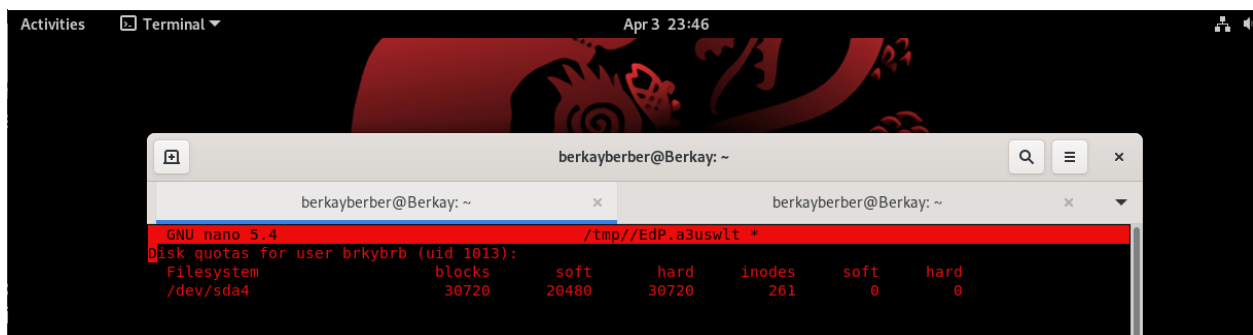
A terminal window titled 'berkayberber@Berkay: ~' showing the output of the 'edquota' command in nano editor. The output displays the updated disk quotas for user 'brkybrb' (uid 1013) on the filesystem '/dev/sda4'. The table shows the updated usage and limits.

Filesystem	blocks	soft	hard	inodes	soft	hard
/dev/sda4	25028	20480	30720	262	0	0

After Base64 /dev/urandom | head -c 10M > file.txt command:



```
berkayberber@Berkay: ~  
$ base64 /dev/urandom | head -c 10M > file.txt  
sda4: write failed, user block limit reached.  
head: error writing 'standard output': Disk quota exceeded  
$ exit  
root@Berkay:~# edquota -u brkybrb
```

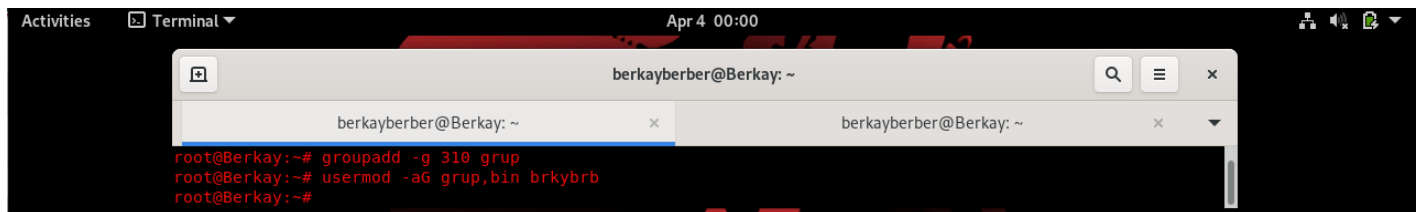


```
GNU nano 5.4 /tmp//EdP.a3uswlt +  
Disk quotas for user brkybrb (uid 1013):  
Filesystem      blocks      soft      hard    inodes      soft      hard  
/dev/sda4        30720    20480    30720       261         0         0
```

According to my observations, blocks and inodes has increased. As far as I understood inodes allocates an index node(inodes) for files and directories so that after we created file.txt in it, inodes has increased 1. And due to stored data Block storage increased accordingly.

1.3

Results after the adding group of a user.



```
root@Berkay:~# groupadd -g 310 grup  
root@Berkay:~# usermod -aG grup,bin brkybrb  
root@Berkay:~#
```

Activities Terminal Apr 4 00:03

berkayberber@Berkay: ~

GNU nano 5.4 /tmp//EdP.akM0VZ2

```
disk quotas for group grup (gid 310):
Filesystem      blocks      soft      hard      inodes      soft      hard
/dev/sda4              0          0          0          0          0          0
```

Read 3 lines

Help Write Out Where Is Read 3 lines Cut Execute Location M-U Undo
Exit Read File Replace Paste Justify Go To Line M-E Redo

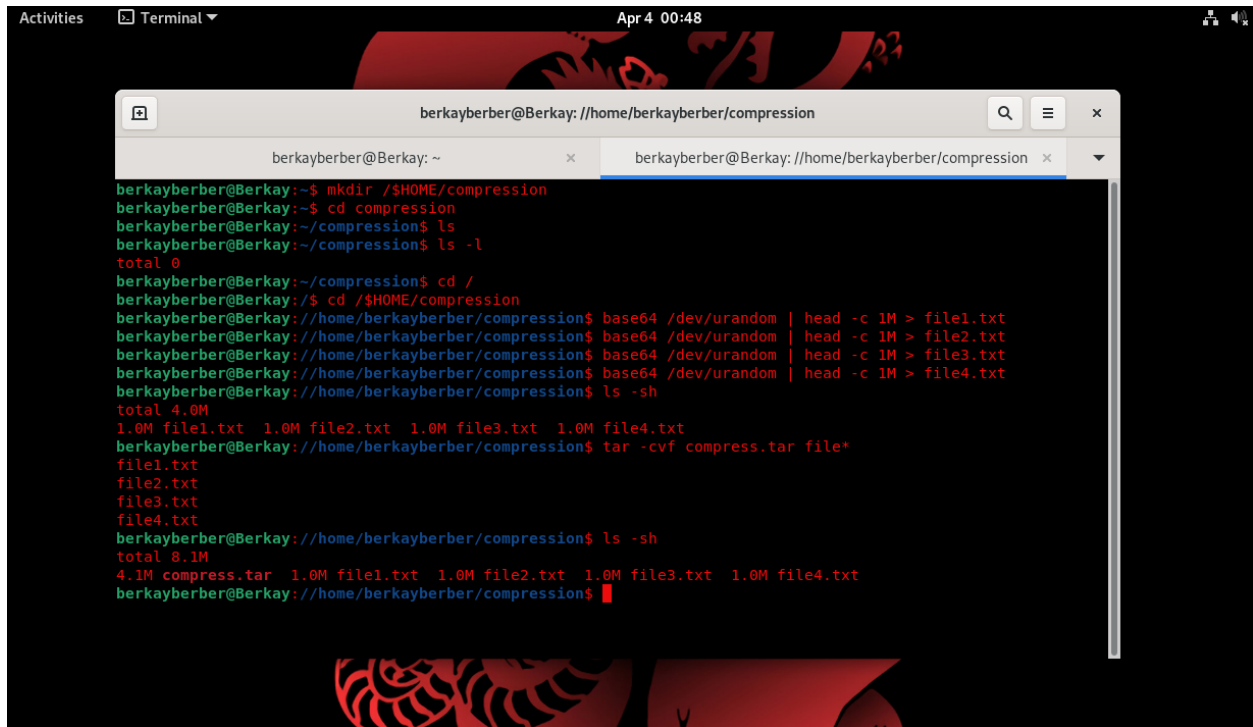
Activities Terminal Apr 4 00:05

berkayberber@Berkay: ~

```
sda4: write failed, user block limit reached.
head: error writing 'standard output': Disk quota exceeded
$ exit
root@Berkay:~# edquota -u brkybrb
root@Berkay:~# groupadd -g 310 grup
root@Berkay:~# usermod -aG grup,bin brkybrb
root@Berkay:~# edquota -g grup
root@Berkay:~# setquota -g grup 30M 40M 0 0 /
root@Berkay:~# edquota -g grup
root@Berkay:~# quota -gvs grup
Disk quotas for group grup (gid 310):
Filesystem      space      quota      limit      grace      files      quota      limit      grace
/dev/sda4              0K    30720K    40960K              0          0          0
```

Task2

Task 2.4

A terminal window titled 'berkayberber@Berkay: ~/home/berkayberber/compression' with a search bar and window controls. The terminal shows the following commands and output:

```
berkayberber@Berkay:~$ mkdir ~/compression
berkayberber@Berkay:~$ cd compression
berkayberber@Berkay:~/compression$ ls
berkayberber@Berkay:~/compression$ ls -l
total 0
berkayberber@Berkay:~/compression$ cd /
berkayberber@Berkay:/$ cd ~/home/berkayberber/compression
berkayberber@Berkay:~/home/berkayberber/compression$ base64 /dev/urandom | head -c 1M > file1.txt
berkayberber@Berkay:~/home/berkayberber/compression$ base64 /dev/urandom | head -c 1M > file2.txt
berkayberber@Berkay:~/home/berkayberber/compression$ base64 /dev/urandom | head -c 1M > file3.txt
berkayberber@Berkay:~/home/berkayberber/compression$ base64 /dev/urandom | head -c 1M > file4.txt
berkayberber@Berkay:~/home/berkayberber/compression$ ls -sh
total 4.0M
1.0M file1.txt 1.0M file2.txt 1.0M file3.txt 1.0M file4.txt
berkayberber@Berkay:~/home/berkayberber/compression$ tar -cvf compress.tar file*
file1.txt
file2.txt
file3.txt
file4.txt
berkayberber@Berkay:~/home/berkayberber/compression$ ls -sh
total 8.1M
4.1M compress.tar 1.0M file1.txt 1.0M file2.txt 1.0M file3.txt 1.0M file4.txt
berkayberber@Berkay:~/home/berkayberber/compression$
```

What is the size of that archive? Why? -> The total size of the directory is 8.1M as presented above. After adding the created 4 file with 1m size into the created archive, it supposed to become an 8M total however, as we observed at the above result that size of the archives is 8.1M and as far as I understood, the reason is that a tar file overhead because it also includes information on how to recreate the files. If the content, we added to the tar file itself is already compressed we can end up with a bigger file than all the Mibs of all the files together. An archive is also special file made of headers that may take a substantial amount of space.

Task2.5

-c -> Create an archive

-z -> Compress the archive with gzip

-v -> Display progress in the terminal while creating the archive, also known as “verbose” mode. The v is always optional in these commands, but it’s helpful.

-f -> Allows you to specify the filename of the archive

```
Activities Terminal Apr 4 17:31
berkayberber@Berkay: ~/home/berkayber/compression

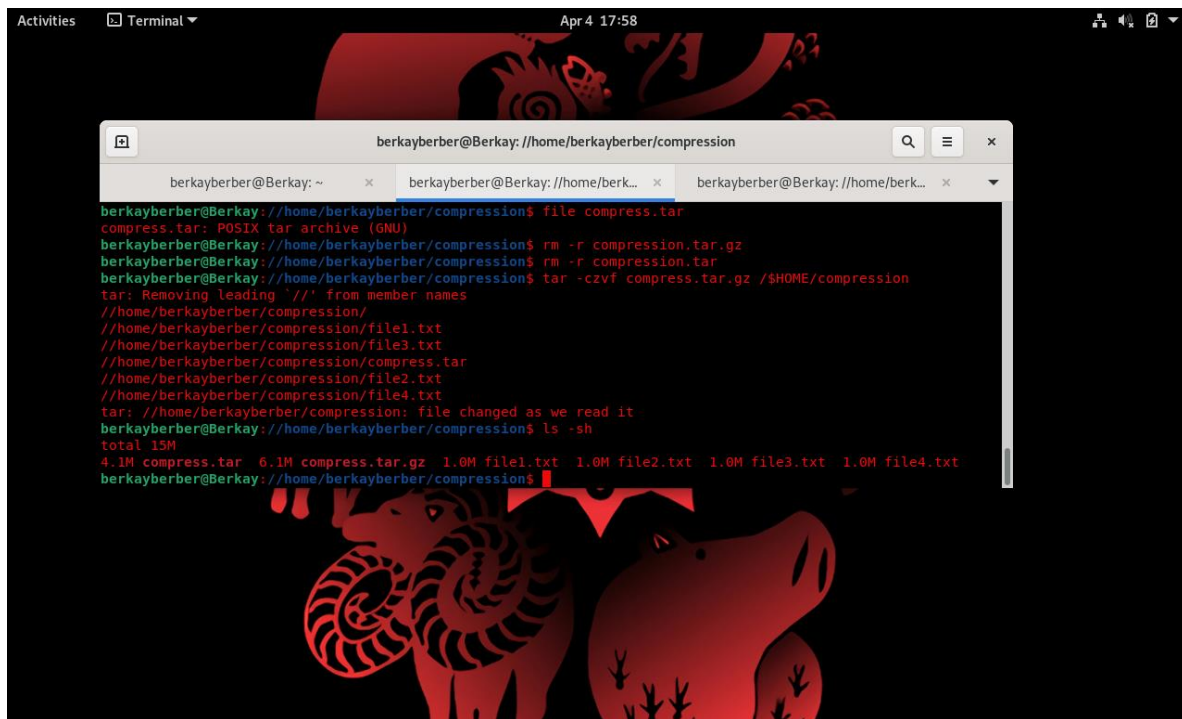
berkayberber@Berkay: ~/home/berkayber/compression
4.1M compress.tar 1.0M file1.txt 1.0M file2.txt 1.0M file3.txt 1.0M file4.txt
berkayberber@Berkay:~/home/berkayber/compression$ cd /
berkayberber@Berkay:/$ tar -cvf compression.tar compression
tar: compression.tar: Cannot open: Permission denied
tar: Error is not recoverable: exiting now
berkayberber@Berkay:/$ tar -cvf /$HOME/compression/compression.tar compression
tar: compression: Cannot stat: No such file or directory
tar: Exiting with failure status due to previous errors
berkayberber@Berkay:/$ tar -cvf /$HOME/compression/compression.tar /$HOME/compression
tar: Removing leading '/' from member names
//home/berkayberber/compression/
//home/berkayberber/compression/file1.txt
tar: //home/berkayberber/compression/compression.tar: file is the archive; not dumped
//home/berkayberber/compression/file3.txt
//home/berkayberber/compression/compress.tar
//home/berkayberber/compression/file2.txt
//home/berkayberber/compression/file4.txt
berkayberber@Berkay:/$ ls
aquota.group boot home lib libx32 mnt root srv usr vmlinuz.old
aquota.user dev initrd.img lib32 lost+found opt run sys var
bin etc initrd.img.old lib64 media proc sbin tmp vmlinuz
berkayberber@Berkay:/$ cd /$HOME/compression
berkayberber@Berkay:~/home/berkayberber/compression$ ls -sh
total 17M
8.1M compression.tar 4.1M compress.tar 1.0M file1.txt 1.0M file2.txt 1.0M file3.txt 1.0M file4.txt
berkayberber@Berkay:~/home/berkayberber/compression$ tar -czvf compression.tar.gz /$HOME/compression
tar: Removing leading '/' from member names
//home/berkayberber/compression/
//home/berkayberber/compression/file1.txt
//home/berkayberber/compression/compression.tar
//home/berkayberber/compression/file3.txt
//home/berkayberber/compression/compress.tar
//home/berkayberber/compression/compress.tar
```

```
Activities Terminal Apr 4 17:31
berkayberber@Berkay: ~/home/berkayberber/compression

berkayberber@Berkay: ~/home/berkayberber/compression
//home/berkayberber/compression/file1.txt
//home/berkayberber/compression/compression.tar
//home/berkayberber/compression/file3.txt
//home/berkayberber/compression/compress.tar
//home/berkayberber/compression/file2.txt
//home/berkayberber/compression/file4.txt
tar: //home/berkayberber/compression: file changed as we read it
berkayberber@Berkay:~/home/berkayberber/compression$ ls -sh
total 29M
8.1M compression.tar 4.1M compress.tar 1.0M file2.txt 1.0M file4.txt
13M compression.tar.gz 1.0M file1.txt 1.0M file3.txt
berkayberber@Berkay:~/home/berkayberber/compression$ cd compression.tar.gz
bash: cd: compression.tar.gz: Not a directory
berkayberber@Berkay:~/home/berkayberber/compression$ file compression.tar.gz
compression.tar.gz: gzip compressed data, from Unix, original size modulo 2^32 16803840
berkayberber@Berkay:~/home/berkayberber/compression$ file compression.tar
compression.tar: POSIX tar archive (GNU)
berkayberber@Berkay:~/home/berkayberber/compression$ file compress.tar
compress.tar: POSIX tar archive (GNU)
berkayberber@Berkay:~/home/berkayberber/compression$
```

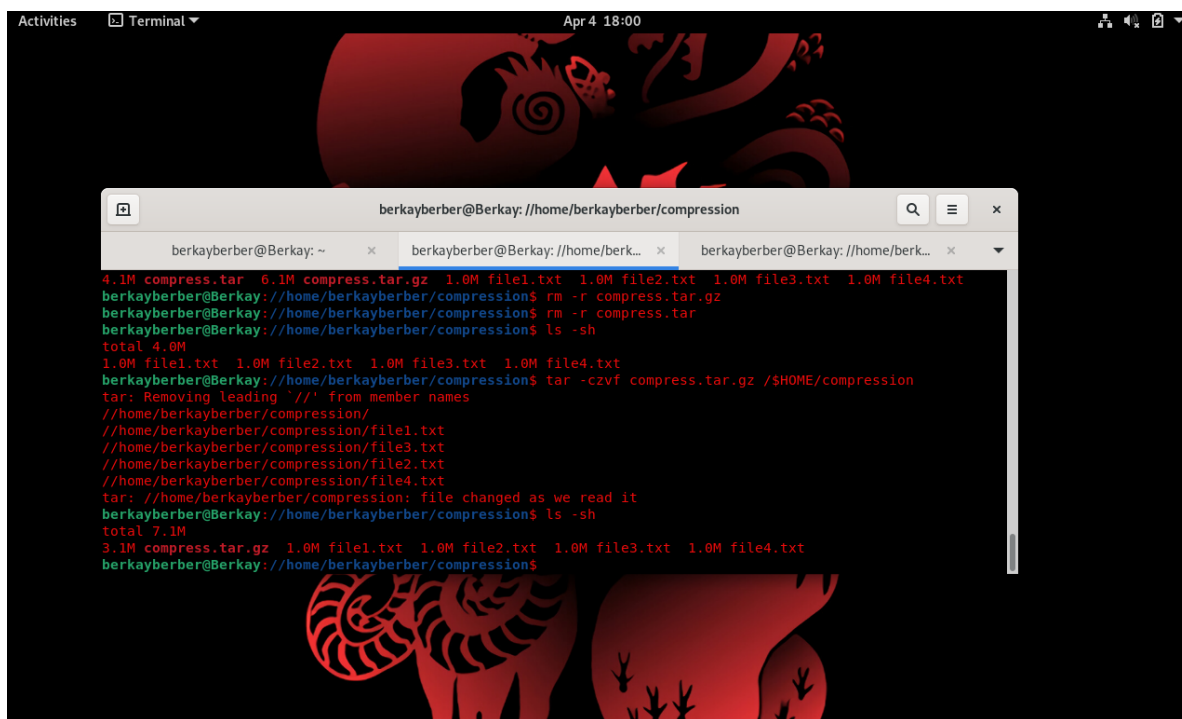
In above compression.tar.gz is have a all the archives and files in it which compression.tar(8.1M), compress.tar(4.1M), 4 file.txt(4M) -> So as a result I observed is size is of using with gzip, become even less then only using tar which is 13M. It supposed to be around 16.2 or due to overhead of the archieve it could be even bigger.

There will be below the result of only the size of compress.tar (4.1M) and Files(4M) Lets see the results ->

A terminal window titled 'berkayberber@Berkay: //home/berkayberber/compression' with a search icon, menu icon, and close icon. It shows a series of commands and their outputs. The user first runs 'file compress.tar', which identifies it as a POSIX tar archive. Then, they run 'rm -r compress.tar.gz' and 'rm -r compress.tar'. Next, they run 'tar -czvf compress.tar.gz /\$HOME/compression', which lists the contents of the directory: file1.txt, file3.txt, compress.tar, file2.txt, and file4.txt. A warning message indicates that the file changed as it was read. Finally, they run 'ls -sh', which shows the total size of the files as 15M and lists the files with their sizes: 4.1M compress.tar, 6.1M compress.tar.gz, and four 1.0M text files.

```
berkayberber@Berkay: //home/berkayberber/compression$ file compress.tar
compress.tar: POSIX tar archive (GNU)
berkayberber@Berkay: //home/berkayberber/compression$ rm -r compress.tar.gz
berkayberber@Berkay: //home/berkayberber/compression$ rm -r compress.tar
berkayberber@Berkay: //home/berkayberber/compression$ tar -czvf compress.tar.gz /$HOME/compression
tar: Removing leading '/' from member names
//home/berkayberber/compression/
//home/berkayberber/compression/file1.txt
//home/berkayberber/compression/file3.txt
//home/berkayberber/compression/compress.tar
//home/berkayberber/compression/file2.txt
//home/berkayberber/compression/file4.txt
tar: //home/berkayberber/compression: file changed as we read it
berkayberber@Berkay: //home/berkayberber/compression$ ls -sh
total 15M
4.1M compress.tar  6.1M compress.tar.gz  1.0M file1.txt  1.0M file2.txt  1.0M file3.txt  1.0M file4.txt
berkayberber@Berkay: //home/berkayberber/compression$
```

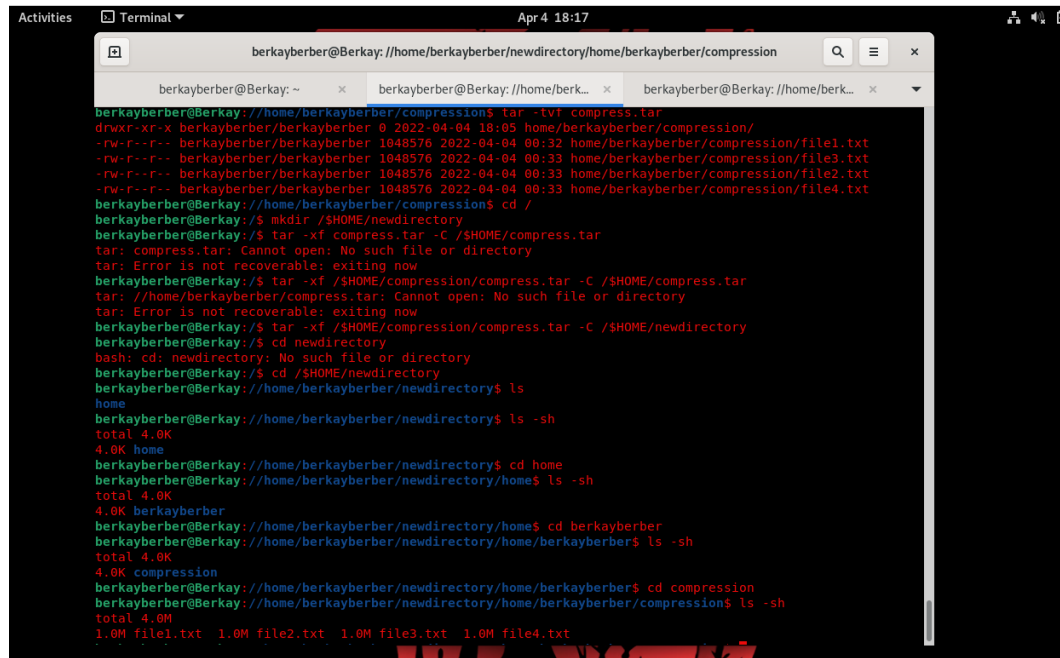
There is below the size result of using gzip command with including 4files with (1M) size in it . And the output is became less than only using tar command as expected which is 3.1M.

A terminal window titled 'berkayberber@Berkay: //home/berkayberber/compression' with a search icon, menu icon, and close icon. It shows a series of commands and their outputs. The user first runs 'ls -sh', which shows the total size of the files as 4.0M and lists the files with their sizes: 1.0M file1.txt, 1.0M file2.txt, 1.0M file3.txt, and 1.0M file4.txt. Then, they run 'tar -czvf compress.tar.gz /\$HOME/compression', which lists the contents of the directory: file1.txt, file3.txt, file2.txt, and file4.txt. A warning message indicates that the file changed as it was read. Finally, they run 'ls -sh', which shows the total size of the files as 7.1M and lists the files with their sizes: 3.1M compress.tar.gz, and four 1.0M text files.

```
berkayberber@Berkay: //home/berkayberber/compression$ ls -sh
total 4.0M
1.0M file1.txt  1.0M file2.txt  1.0M file3.txt  1.0M file4.txt
berkayberber@Berkay: //home/berkayberber/compression$ tar -czvf compress.tar.gz /$HOME/compression
tar: Removing leading '/' from member names
//home/berkayberber/compression/
//home/berkayberber/compression/file1.txt
//home/berkayberber/compression/file3.txt
//home/berkayberber/compression/file2.txt
//home/berkayberber/compression/file4.txt
tar: //home/berkayberber/compression: file changed as we read it
berkayberber@Berkay: //home/berkayberber/compression$ ls -sh
total 7.1M
3.1M compress.tar.gz  1.0M file1.txt  1.0M file2.txt  1.0M file3.txt  1.0M file4.txt
berkayberber@Berkay: //home/berkayberber/compression$
```

Task 2.6 -> "tar -tvf __tar" command is used to list the content of the tar file as presented below.

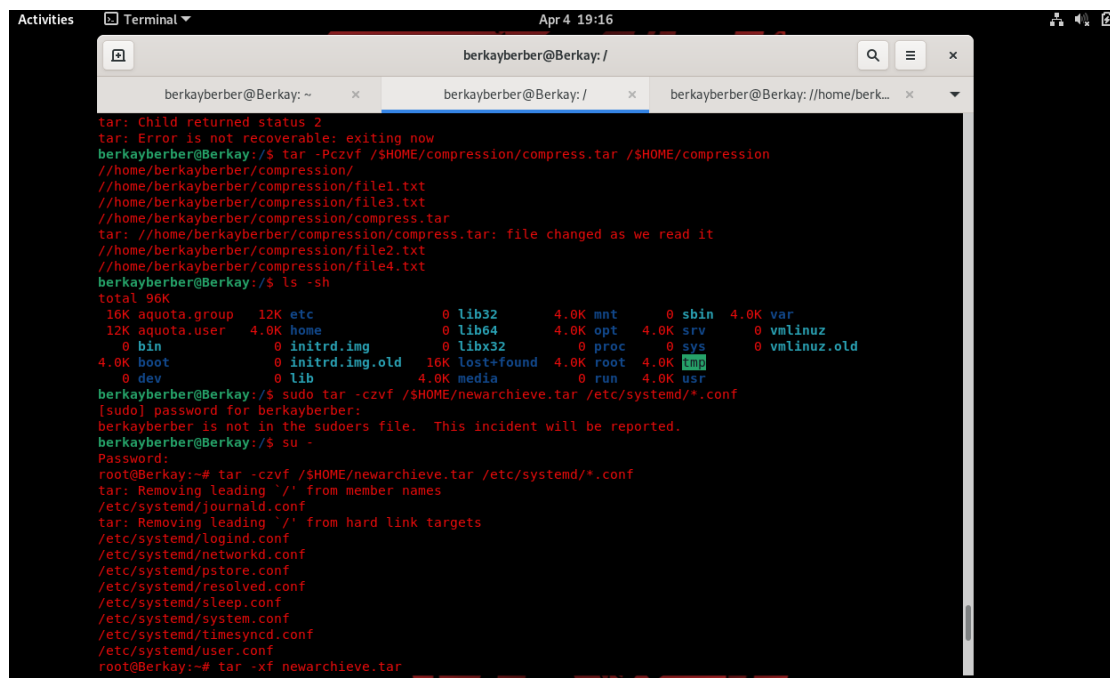
Created called newdirectory into \$HOME and then using tar -xf ____ -C command files are extracted.



```
berkayberber@Berkay: //home/berkayberber/newdirectory/home/berkayberber/compression
berkayberber@Berkay: ~
berkayberber@Berkay: //home/berkayberber/compression$ tar -tvf compress.tar
drwxr-xr-x berkayberber/berkayberber 0 2022-04-04 18:05 home/berkayberber/compression/
-rw-r--r-- berkayberber/berkayberber 1048576 2022-04-04 00:32 home/berkayberber/compression/file1.txt
-rw-r--r-- berkayberber/berkayberber 1048576 2022-04-04 00:33 home/berkayberber/compression/file3.txt
-rw-r--r-- berkayberber/berkayberber 1048576 2022-04-04 00:33 home/berkayberber/compression/file2.txt
-rw-r--r-- berkayberber/berkayberber 1048576 2022-04-04 00:33 home/berkayberber/compression/file4.txt
berkayberber@Berkay: //home/berkayberber/compression$ cd /
berkayberber@Berkay: $ mkdir /$HOME/newdirectory
berkayberber@Berkay: $ tar -xf compress.tar -C /$HOME/compress.tar
tar: compress.tar: Cannot open: No such file or directory
tar: Error is not recoverable: exiting now
berkayberber@Berkay: $ tar -xf /$HOME/compression/compress.tar -C /$HOME/compress.tar
tar: //home/berkayberber/compress.tar: Cannot open: No such file or directory
tar: Error is not recoverable: exiting now
berkayberber@Berkay: $ tar -xf /$HOME/compression/compress.tar -C /$HOME/newdirectory
berkayberber@Berkay: $ cd newdirectory
bash: cd: newdirectory: No such file or directory
berkayberber@Berkay: $ cd /$HOME/newdirectory
berkayberber@Berkay: //home/berkayberber/newdirectory$ ls
home
berkayberber@Berkay: //home/berkayberber/newdirectory$ ls -sh
total 4.0K
4.0K home
berkayberber@Berkay: //home/berkayberber/newdirectory$ cd home
berkayberber@Berkay: //home/berkayberber/newdirectory/home$ ls -sh
total 4.0K
4.0K berkayberber
berkayberber@Berkay: //home/berkayberber/newdirectory/home$ cd berkayberber
berkayberber@Berkay: //home/berkayberber/newdirectory/home/berkayberber$ ls -sh
total 4.0K
4.0K compression
berkayberber@Berkay: //home/berkayberber/newdirectory/home/berkayberber$ cd compression
berkayberber@Berkay: //home/berkayberber/newdirectory/home/berkayberber/compression$ ls -sh
total 4.0M
1.0M file1.txt 1.0M file2.txt 1.0M file3.txt 1.0M file4.txt
```

Task 2.7, 2.8

I used absolute path in thee previous exercise because absolute path contains the root element and the complete directory list.cd



```
berkayberber@Berkay: /
tar: Child returned status 2
tar: Error is not recoverable: exiting now
berkayberber@Berkay: $ tar -Pczvf /$HOME/compression/compress.tar /$HOME/compression
//home/berkayberber/compression/
//home/berkayberber/compression/file1.txt
//home/berkayberber/compression/file3.txt
//home/berkayberber/compression/compress.tar
tar: //home/berkayberber/compression/compress.tar: file changed as we read it
//home/berkayberber/compression/file2.txt
//home/berkayberber/compression/file4.txt
berkayberber@Berkay: $ ls -sh
total 96K
16K aquota.group 12K etc 0 lib32 4.0K mnt 0 sbin 4.0K var
12K aquota.user 4.0K home 0 lib64 4.0K opt 4.0K srv 0 vmlinuz
0 bin 0 initrd.img 0 libx32 0 proc 0 sys 0 vmlinuz.old
4.0K boot 0 initrd.img.old 16K lost+found 4.0K root 4.0K tmp
0 dev 0 lib 4.0K media 0 run 4.0K usr
berkayberber@Berkay: $ sudo tar -czvf /$HOME/newarchive.tar /etc/systemd/*.conf
[sudo] password for berkayberber:
berkayberber is not in the sudoers file. This incident will be reported.
berkayberber@Berkay: $ su -
Password:
root@Berkay: ~# tar -czvf /$HOME/newarchive.tar /etc/systemd/*.conf
tar: Removing leading '/' from member names
/etc/systemd/journald.conf
tar: Removing leading '/' from hard link targets
/etc/systemd/logind.conf
/etc/systemd/networkd.conf
/etc/systemd/pstore.conf
/etc/systemd/resolved.conf
/etc/systemd/sleep.conf
/etc/systemd/system.conf
/etc/systemd/timesyncd.conf
/etc/systemd/user.conf
root@Berkay: ~# tar -xf newarchive.tar
```

```
Activities Terminal Apr 4 19:17
berkayberber@Berkay: /
berkayberber@Berkay: ~
berkayberber@Berkay: /
berkayberber@Berkay: //home/berk...

/etc/systemd/system.conf
/etc/systemd/timesyncd.conf
/etc/systemd/user.conf
root@Berkay:~# tar -xvf newarchive.tar
root@Berkay:~# ls
adduser.sh newarchive.tar new_script scripts.save simple_script.save
etc newdirectory newuser.sh simple_script
root@Berkay:~# cd /$HOME/compression
-bash: cd: //root/compression: No such file or directory
root@Berkay:~# cd compression
-bash: cd: compression: No such file or directory
root@Berkay:~# cd etc
root@Berkay:~# cd etc# ls -l
total 4
drwxr-xr-x 2 root root 4096 Apr  4 18:49 systemd
root@Berkay:~# cd etc# cd systemd
root@Berkay:~# cd etc/systemd# ls -l
-bash: ls-l: command not found
root@Berkay:~# cd etc/systemd# ls -l
total 36
-rw-r--r-- 1 root root 1052 Jul 13 2021 journald.conf
-rw-r--r-- 1 root root 1145 Jul 13 2021 logind.conf
-rw-r--r-- 1 root root 600 Feb  2 2021 networkd.conf
-rw-r--r-- 1 root root 520 Feb  2 2021 pstore.conf
-rw-r--r-- 1 root root 943 Jul 13 2021 resolved.conf
-rw-r--r-- 1 root root 790 Feb  2 2021 sleep.conf
-rw-r--r-- 1 root root 1774 Jul 13 2021 system.conf
-rw-r--r-- 1 root root 677 Jul 13 2021 timesyncd.conf
-rw-r--r-- 1 root root 1197 Jul 13 2021 user.conf
root@Berkay:~# cd etc/systemd# cd ..
root@Berkay:~# cd etc# cd ..
root@Berkay:~# cd /$HOME/newarchive
```

Task2.9

```
Activities Terminal Apr 4 19:41
berkayberber@Berkay: /
berkayberber@Berkay: ~
berkayberber@Berkay: /
berkayberber@Berkay: //home/berk...

berkayberber@Berkay:/$ tar tvf /$HOME/compression/compress.tar.gz
drwxr-xr-x berkayberber/berkayberber 0 2022-04-04 18:10 home/berkayberber/compression/
-rw-r--r-- berkayberber/berkayberber 1048576 2022-04-04 00:32 home/berkayberber/compression/file1.txt
-rw-r--r-- berkayberber/berkayberber 1048576 2022-04-04 00:33 home/berkayberber/compression/file3.txt
-rw-r--r-- berkayberber/berkayberber 4683388 2022-04-04 18:46 home/berkayberber/compression/compress.tar
-rw-r--r-- berkayberber/berkayberber 1048576 2022-04-04 00:33 home/berkayberber/compression/file2.txt
-rw-r--r-- berkayberber/berkayberber 1048576 2022-04-04 00:33 home/berkayberber/compression/file4.txt
berkayberber@Berkay:/$ tar -zxvf /$HOME/compression/compress.tar.gz /$HOME/compression/file4.txt
tar: //home/berkayberber/compression/file4.txt: Not found in archive
tar: Exiting with failure status due to previous errors
berkayberber@Berkay:/$ tar -zxvf /$HOME/compression/compress.tar.gz /$HOME/berkayberber/compression/file4.tx
t
tar: //home/berkayberber/berkayberber/compression/file4.txt: Not found in archive
tar: Exiting with failure status due to previous errors
berkayberber@Berkay:/$ tar -zxvf /$HOME/compression/compress.tar.gz HOME/berkayberber/compression/file4.txt
tar: HOME/berkayberber/compression/file4.txt: Not found in archive
tar: Exiting with failure status due to previous errors
berkayberber@Berkay:/$ tar -zxvf /$HOME/compression/compress.tar.gz /$HOME/compression/file4.txt
tar: //home/berkayberber/compression/file4.txt: Not found in archive
tar: Exiting with failure status due to previous errors
berkayberber@Berkay:/$
```

Task3.10

```
Activities Terminal Apr 4 19:57
berkayberber@Berkay: /

berkayberber@Berkay:/$ su -
Password:
root@Berkay:~# apt-get install at
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  exim4-base exim4-config exim4-daemon-light gssasl-common libfl2 libgnutls-dane0 libgssasl7 libmailutils7
  libmariadb3 libntlm0 libunbound8 mailutils mailutils-common mariadb-common mysql-common
Suggested packages:
  exim4-doc-html | exim4-doc-info eximon4 spf-tools-perl swaks mailutils-mh mailutils-doc
The following NEW packages will be installed:
  at exim4-base exim4-config exim4-daemon-light gssasl-common libfl2 libgnutls-dane0 libgssasl7
  libmailutils7 libmariadb3 libntlm0 libunbound8 mailutils mailutils-common mariadb-common mysql-common
0 upgraded, 16 newly installed, 0 to remove and 69 not upgraded.
Need to get 6,091 kB of archives.
After this operation, 13.5 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://deb.debian.org/debian bullseye/main amd64 libfl2 amd64 2.6.4-8 [103 kB]
Get:2 http://deb.debian.org/debian bullseye/main amd64 at amd64 3.1.23-1.1 [49.9 kB]
Get:3 http://deb.debian.org/debian bullseye/main amd64 exim4-config all 4.94.2-7 [335 kB]
Get:4 http://deb.debian.org/debian bullseye/main amd64 exim4-base amd64 4.94.2-7 [1,175 kB]
Get:5 http://deb.debian.org/debian bullseye/main amd64 libunbound8 amd64 1.13.1-1 [504 kB]
Get:6 http://deb.debian.org/debian bullseye/main amd64 libgnutls-dane0 amd64 3.7.1-5 [394 kB]
Get:7 http://deb.debian.org/debian bullseye/main amd64 exim4-daemon-light amd64 4.94.2-7 [658 kB]
Get:8 http://deb.debian.org/debian bullseye/main amd64 gssasl-common all 1.10.0-4 [175 kB]
Get:9 http://deb.debian.org/debian bullseye/main amd64 libntlm0 amd64 1.6-3 [84.7 kB]
Get:10 http://deb.debian.org/debian bullseye/main amd64 libgssasl7 amd64 1.10.0-4 [195 kB]
Get:11 http://deb.debian.org/debian bullseye/main amd64 mailutils-common all 1:3.10-3 [728 kB]
Get:12 http://deb.debian.org/debian bullseye/main amd64 mysql-common all 5.8+1.0.7 [7,464 B]
Get:13 http://deb.debian.org/debian bullseye/main amd64 mariadb-common all 1:10.5.15-0+deb11u1 [36.7 kB]
Get:14 http://deb.debian.org/debian bullseye/main amd64 libmariadb3 amd64 1:10.5.15-0+deb11u1 [176 kB]
Get:15 http://deb.debian.org/debian bullseye/main amd64 libmailutils7 amd64 1:3.10-3+b1 [893 kB]
Get:16 http://deb.debian.org/debian bullseye/main amd64 mailutils amd64 1:3.10-3+b1 [576 kB]
Fetched 6,091 kB in 2s (3,273 kB/s)
```

```
Activities Terminal Apr 4 20:33
berkayberber@Berkay: /

berkayberber@Berkay:/$ date
Mon 04 Apr 2022 08:29:16 PM CEST
berkayberber@Berkay:/$ at 8:35PM
warning: commands will be executed using /bin/sh
at> mkdir at_testing ; touch at_testing/created_by_at.txt
at> <EOT>
job 4 at Mon Apr 4 20:35:00 2022
berkayberber@Berkay:/$ at 8:37PM
warning: commands will be executed using /bin/sh
at> mkdir testing ; touch testing/file.txt
at> <EOT>
job 5 at Mon Apr 4 20:37:00 2022
berkayberber@Berkay:/$ at trl
syntax error. Last token seen: t
Garbled time
berkayberber@Berkay:/$ at -l
5 Mon Apr 4 20:37:00 2022 a berkayberber
4 Mon Apr 4 20:35:00 2022 a berkayberber
berkayberber@Berkay:/$ at -d 4
berkayberber@Berkay:/$ at -l
5 Mon Apr 4 20:37:00 2022 a berkayberber
berkayberber@Berkay:/$ at 7:05PM Tuesday
warning: commands will be executed using /bin/sh
at> touch humptydumpty.txt
at> <EOT>
job 6 at Tue Apr 5 19:05:00 2022
berkayberber@Berkay:/$ at now +10 minute
warning: commands will be executed using /bin/sh
at> date >> newfile.txt
at> <EOT>
job 7 at Mon Apr 4 20:43:00 2022
berkayberber@Berkay:/$
```

Task3.11

```
Activities Terminal Apr 4 20:45

berkayberber@Berkay: /

berkayberber@Berkay: ~
berkayberber@Berkay: /
berkayberber@Berkay: /

at> touch humptydumpty.txt
at> <EOT>
job 6 at Tue Apr  5 19:05:00 2022
berkayberber@Berkay:/$ at now +10 minute
warning: commands will be executed using /bin/sh
at> date >> newfile.txt
at> <EOT>
job 7 at Mon Apr  4 20:43:00 2022
berkayberber@Berkay:/$ crontab -e
no crontab for berkayberber - using an empty one

Select an editor. To change later, run 'select-editor'.
 1. /bin/nano          <---- easiest
 2. /usr/bin/vim.tiny

Choose 1-2 [1]: 1
```

```
Activities Terminal Apr 4 20:54

berkayberber@Berkay: /

berkayberber@Berkay: ~
berkayberber@Berkay: /
berkayberber@Berkay: /

GNU nano 5.4 /tmp/crontab.RPN9xY/crontab *
# 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 0 * * * mkdir -p /home/berkayberber/cronfolder/cron2
0 17 * * fri mkdir -p /home/berkayberber/cronfolder/cron2
* 8-17 * * * 1-5 mkdir -p /home/berkayberber/cronfolder/cron2
*/5 * * * * mkdir -p /home/berkayberber/cronfolder/cron2
* */2 * * * * mkdir -p /home/berkayberber/cronfolder/cron2
0 23 * * * sun mkdir -p /home/berkayberber/cronfolder/cron2

^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^J Execute
^X Exit      ^R Read File  ^L Replace    ^U Paste      ^_ Justify
              ^M Undo       ^C Location   ^M-U Undo     ^M-A Set Mark
              ^M-E Redo     ^M-E Redo     ^M-E Copy
```

```
Activities Terminal Apr 4 20:56
berkayberber@Berkay: /
berkayberber@Berkay: ~
berkayberber@Berkay: /
berkayberber@Berkay: /

Choose 1-2 [1]: 1
crontab: installing new crontab
berkayberber@Berkay:/$ 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 0 * * * mkdir -p /home/berkayberber/cronfolder/cron2
0 17 * * fri mkdir -p /home/berkayberber/cronfolder/cron2
* 8-17 * * 1-5 mkdir -p /home/berkayberber/cronfolder/cron2
*/5 * * * * mkdir -p /home/berkayberber/cronfolder/cron2
* */2 * * * mkdir -p /home/berkayberber/cronfolder/cron2
0 23 * * sun mkdir -p /home/berkayberber/cronfolder/cron2
berkayberber@Berkay:/$
```

```
Activities Terminal Apr 4 21:17
berkayberber@Berkay: /
berkayberber@Berkay: ~
berkayberber@Berkay: /
berkayberber@Berkay: /

0 0 * * * mkdir -p /home/berkayberber/cronfolder/cron1
0 17 * * fri mkdir -p /home/berkayberber/cronfolder/cron2
* 8-17 * * 1-5 mkdir -p /home/berkayberber/cronfolder/cron3
*/5 * * * * mkdir -p /home/berkayberber/cronfolder/cron4
* */2 * * * mkdir -p /home/berkayberber/cronfolder/cron5
0 23 * * sun mkdir -p /home/berkayberber/cronfolder/cron6
berkayberber@Berkay:/$ crontab -u linuxhint -l | grep -v 'mkdir -p /home/berkayberber/cronfolder/cron1' | crontab -u linuxhint -
crontab: user `linuxhint' unknown
crontab: user `linuxhint' unknown
berkayberber@Berkay:/$ su -
Password:
root@Berkay:~# cd /etc/cron.hourly
root@Berkay:/etc/cron.hourly# touch cron.sh
root@Berkay:/etc/cron.hourly# nano cron.sh
root@Berkay:/etc/cron.hourly# ls
cron.sh
root@Berkay:/etc/cron.hourly#
```

Activities Terminal Apr 4 21:17

berkayberber@Berkay: /

berkayberber@Berkay: ~ berkayberber@Berkay: / berkayberber@Berkay: /

```
GNU nano 5.4 cron.sh *
#!/bin/sh

echo "This is hourly cron script.."
```

Help Write Out Where Is Cut Execute Location Undo Set Mark To Bracket
Exit Read File Replace Paste Justify Go To Line Redo Copy Where Was