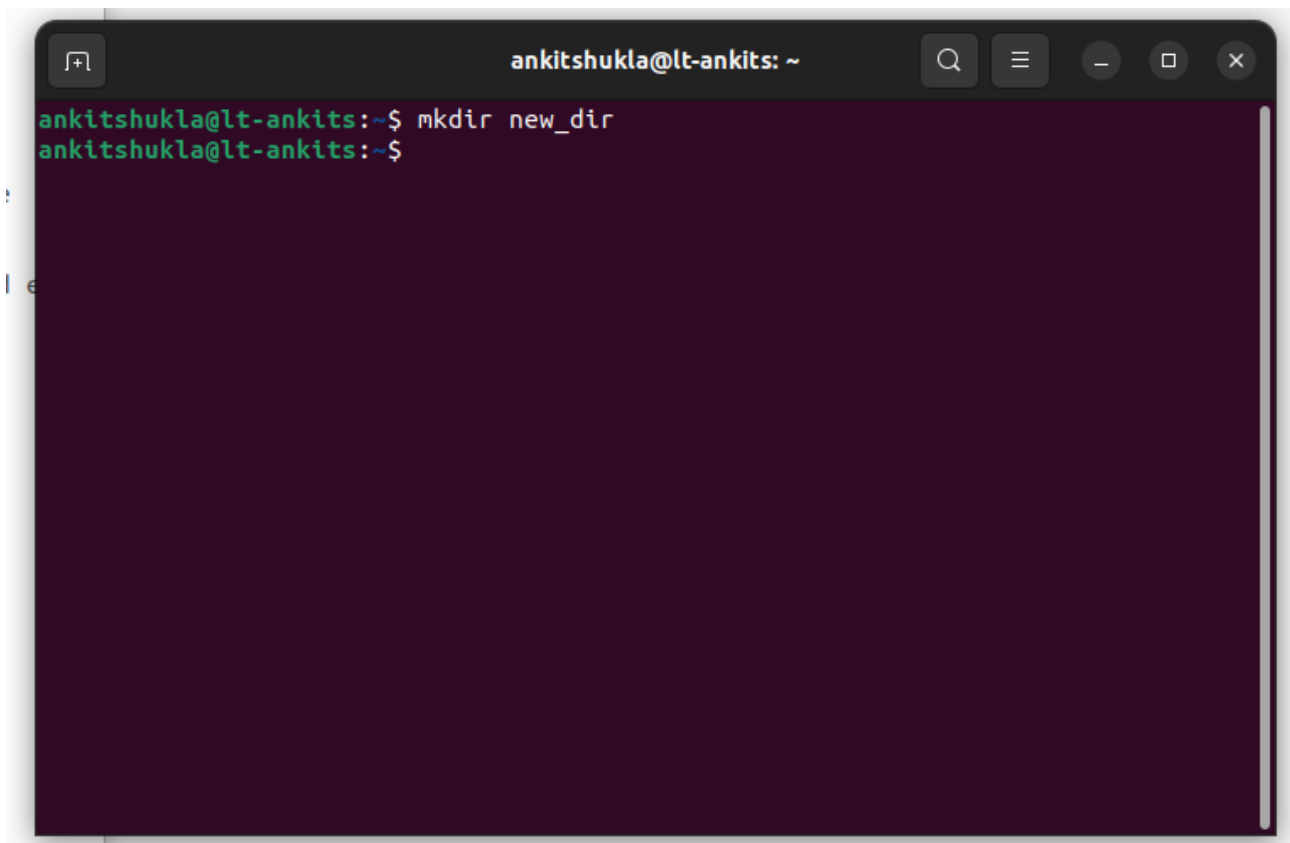
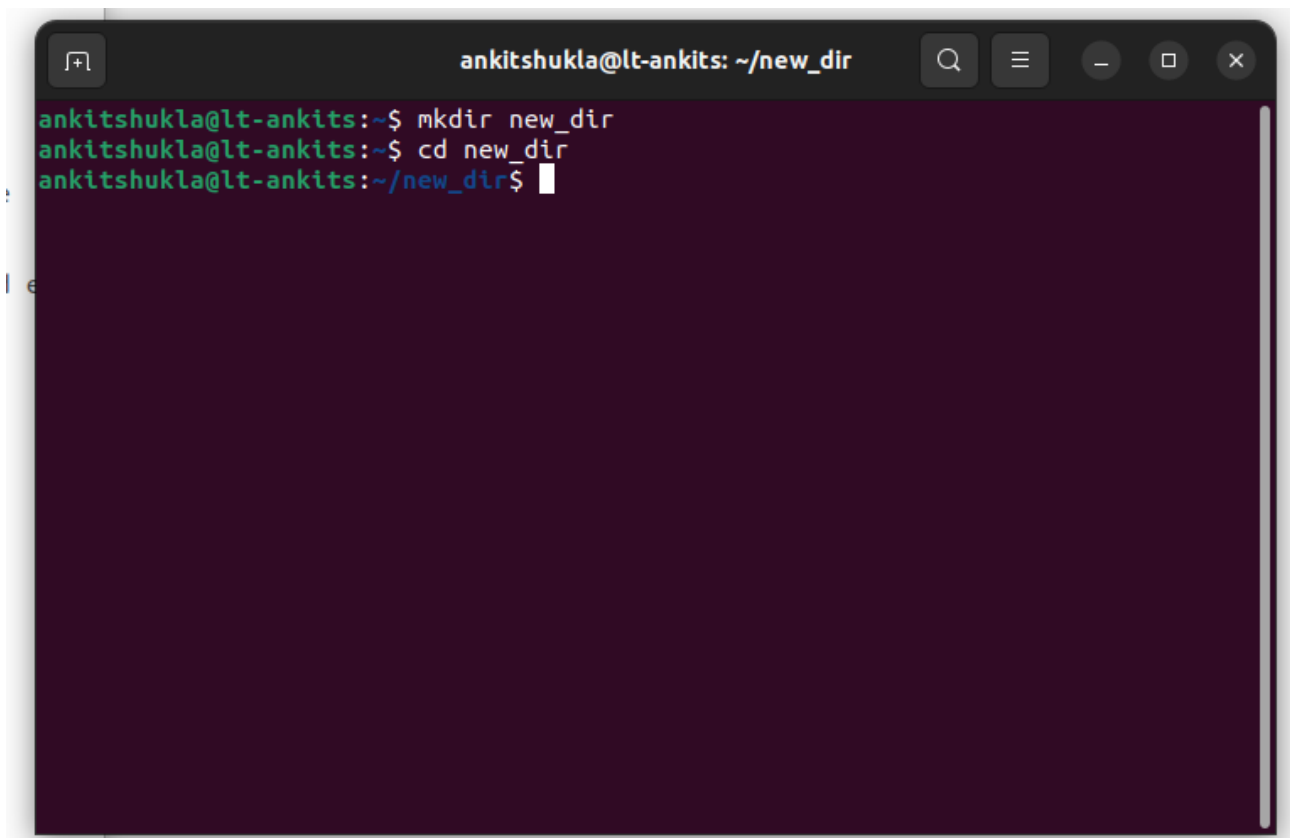


1. Create a directory

A terminal window with a dark background and light green text. The window title is 'ankitshukla@lt-ankits: ~'. The prompt is 'ankitshukla@lt-ankits:~\$'. The command 'mkdir new_dir' has been entered and executed. The prompt is now 'ankitshukla@lt-ankits:~\$' again.

```
ankitshukla@lt-ankits:~$ mkdir new_dir
ankitshukla@lt-ankits:~$
```

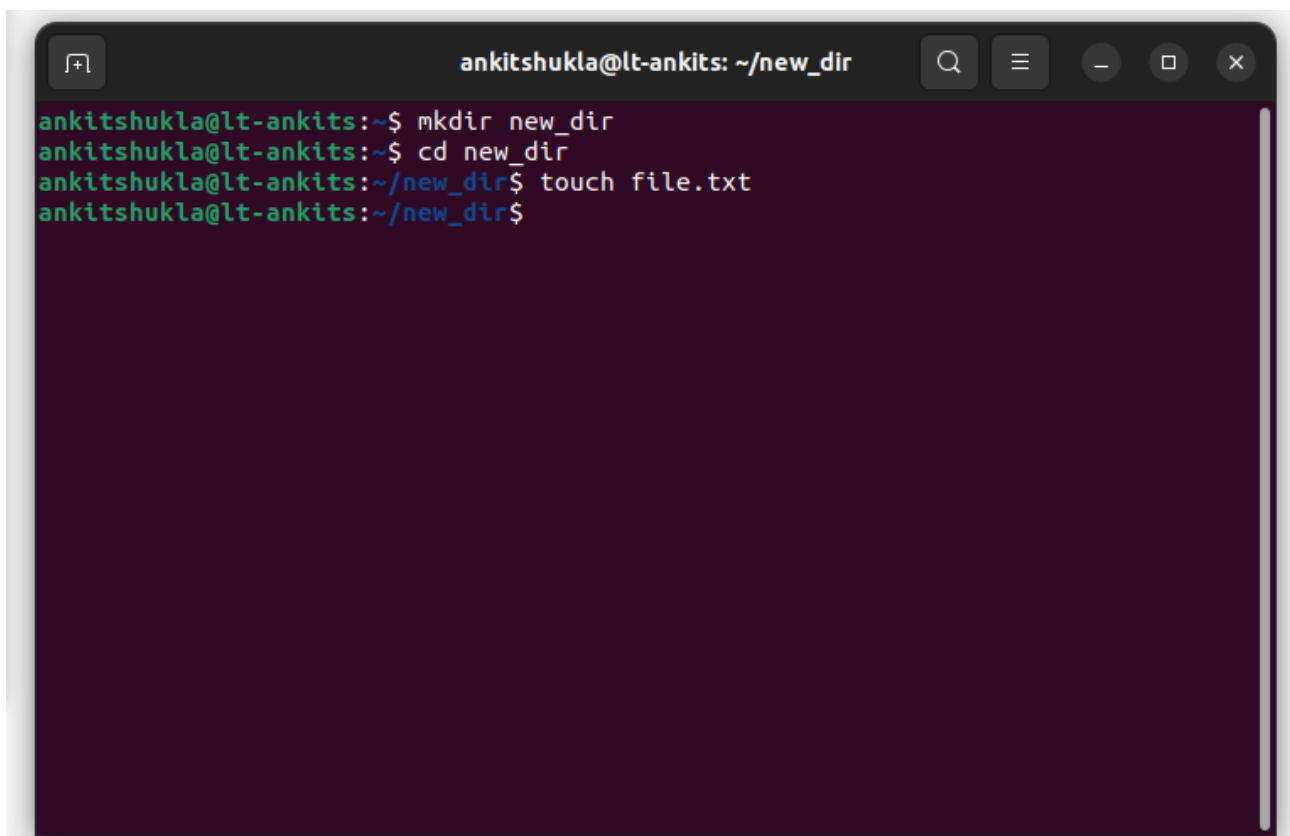
2. Switch to this directory



```
ankitshukla@lt-ankits: ~/new_dir
ankitshukla@lt-ankits:~$ mkdir new_dir
ankitshukla@lt-ankits:~$ cd new_dir
ankitshukla@lt-ankits:~/new_dir$
```

A terminal window with a dark purple background. The title bar shows the user 'ankitshukla' on host 'lt-ankits' in the directory '~/new_dir'. The terminal shows the execution of 'mkdir new_dir', 'cd new_dir', and the current prompt 'ankitshukla@lt-ankits:~/new_dir\$'.

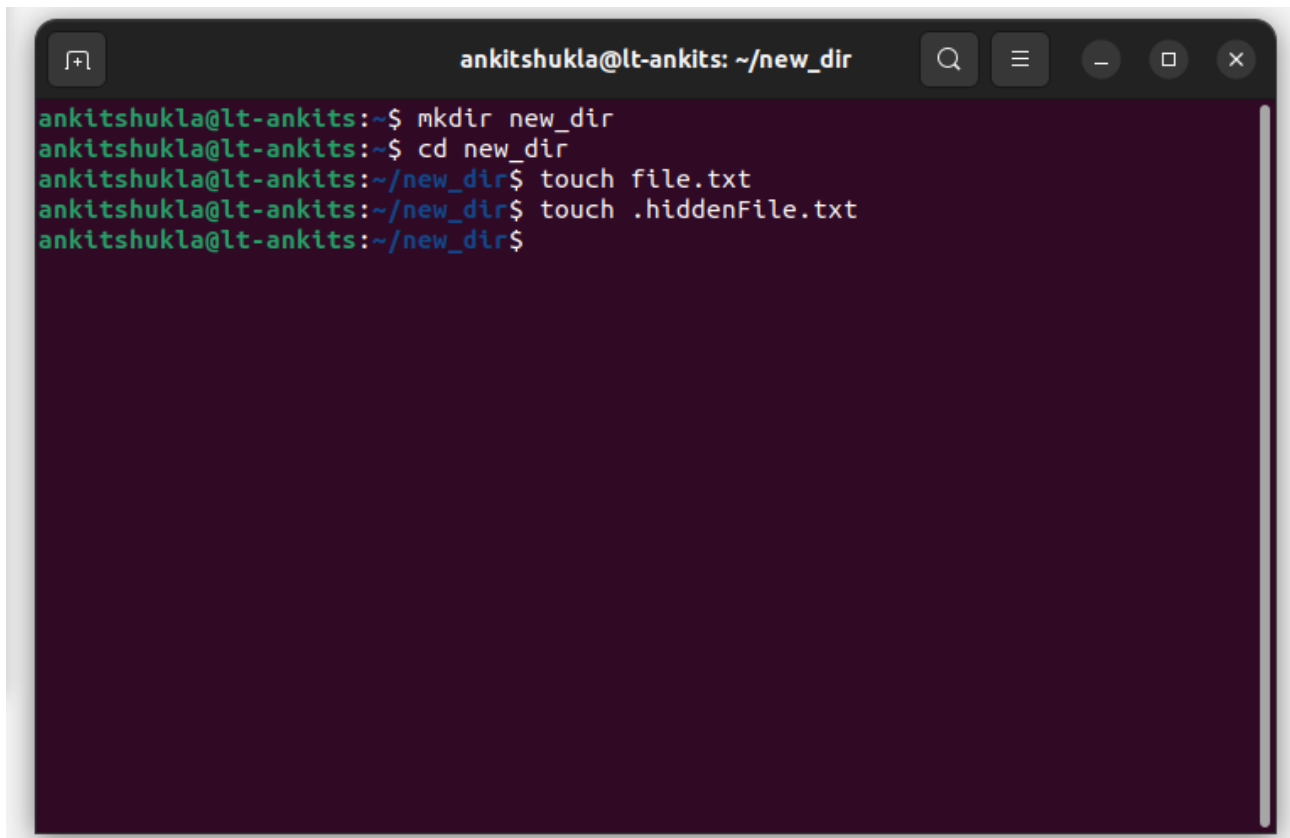
3. Create a normal text file



```
ankitshukla@lt-ankits: ~/new_dir
ankitshukla@lt-ankits:~$ mkdir new_dir
ankitshukla@lt-ankits:~$ cd new_dir
ankitshukla@lt-ankits:~/new_dir$ touch file.txt
ankitshukla@lt-ankits:~/new_dir$
```

A terminal window with a dark purple background. The title bar shows the user 'ankitshukla' on host 'lt-ankits' in the directory '~/new_dir'. The terminal shows the execution of 'mkdir new_dir', 'cd new_dir', 'touch file.txt', and the current prompt 'ankitshukla@lt-ankits:~/new_dir\$'.

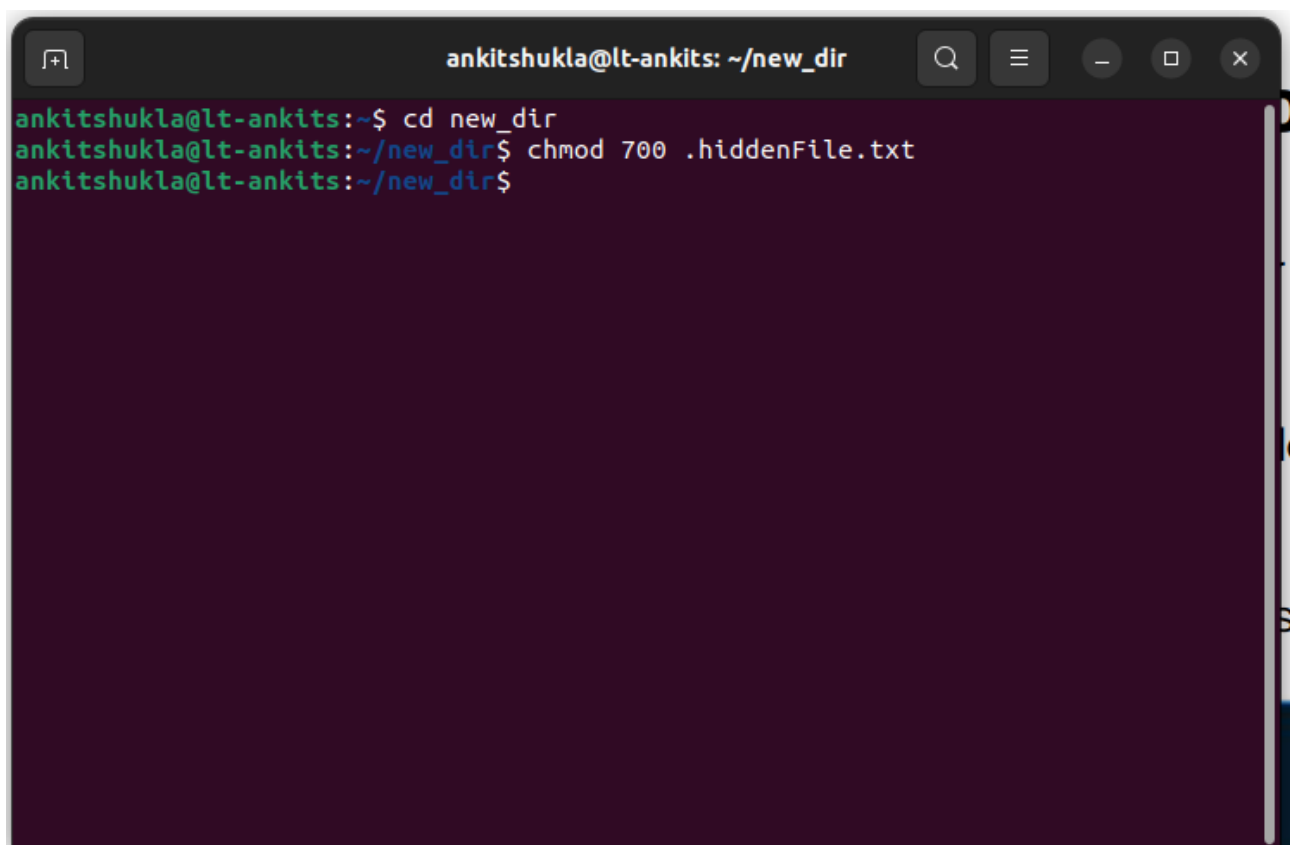
4. Create a hidden text file



```
ankitshukla@lt-ankits: ~/new_dir
ankitshukla@lt-ankits:~$ mkdir new_dir
ankitshukla@lt-ankits:~$ cd new_dir
ankitshukla@lt-ankits:~/new_dir$ touch file.txt
ankitshukla@lt-ankits:~/new_dir$ touch .hiddenFile.txt
ankitshukla@lt-ankits:~/new_dir$
```

A terminal window with a dark purple background. The title bar shows the user 'ankitshukla@lt-ankits' and the current directory '~/new_dir'. The terminal displays the following commands and their outputs: 'mkdir new_dir' creates a new directory; 'cd new_dir' changes the current directory to 'new_dir'; 'touch file.txt' and 'touch .hiddenFile.txt' create two new files in the current directory. The prompt changes from '~\$' to '~/new_dir\$' after the 'cd' command.

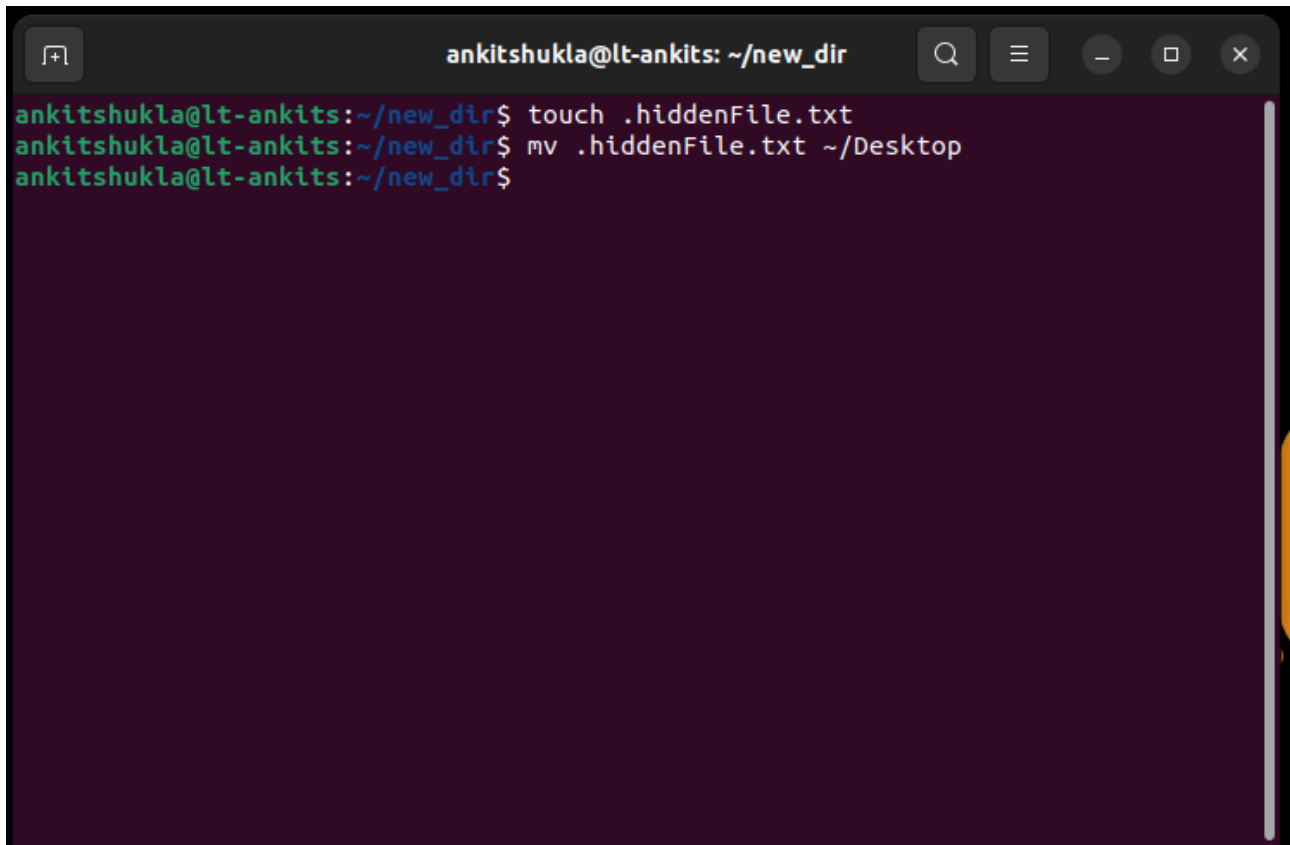
5. Modify the access of the hidden text file so that it can be edited only by root user.



```
ankitshukla@lt-ankits: ~/new_dir
ankitshukla@lt-ankits:~$ cd new_dir
ankitshukla@lt-ankits:~/new_dir$ chmod 700 .hiddenFile.txt
ankitshukla@lt-ankits:~/new_dir$
```

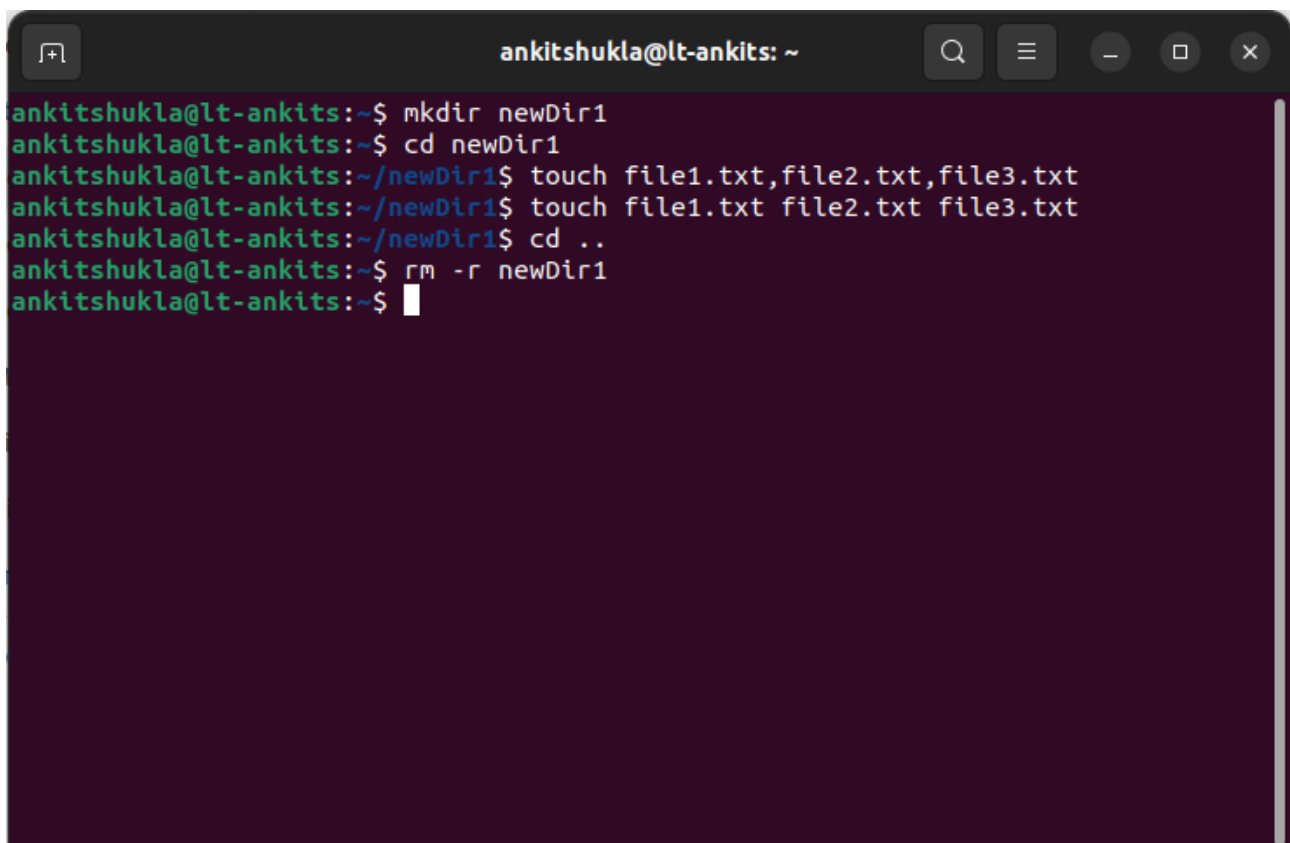
A terminal window with a dark purple background. The title bar shows the user 'ankitshukla@lt-ankits' and the current directory '~/new_dir'. The terminal displays the following commands and their outputs: 'cd new_dir' changes the current directory to 'new_dir'; 'chmod 700 .hiddenFile.txt' sets permissions of 700 for the file '.hiddenFile.txt'. The prompt changes from '~\$' to '~/new_dir\$' after the 'cd' command.

6. Move the hidden file to a your desktop.

A terminal window titled 'ankitshukla@lt-ankits: ~/new_dir'. The prompt is 'ankitshukla@lt-ankits:~/new_dir\$'. The user enters 'touch .hiddenFile.txt', then 'mv .hiddenFile.txt ~/Desktop', and finally 'ankitshukla@lt-ankits:~/new_dir\$'.

```
ankitshukla@lt-ankits: ~/new_dir
ankitshukla@lt-ankits:~/new_dir$ touch .hiddenFile.txt
ankitshukla@lt-ankits:~/new_dir$ mv .hiddenFile.txt ~/Desktop
ankitshukla@lt-ankits:~/new_dir$
```

7. Create a directory, add 3 files into it and then remove the whole directory.

A terminal window titled 'ankitshukla@lt-ankits: ~'. The prompt is 'ankitshukla@lt-ankits:~\$'. The user enters 'mkdir newDir1', then 'cd newDir1', then 'touch file1.txt,file2.txt,file3.txt', then 'touch file1.txt file2.txt file3.txt', then 'cd ..', then 'rm -r newDir1', and finally 'ankitshukla@lt-ankits:~\$' with a cursor.

```
ankitshukla@lt-ankits:~$ mkdir newDir1
ankitshukla@lt-ankits:~$ cd newDir1
ankitshukla@lt-ankits:~/newDir1$ touch file1.txt,file2.txt,file3.txt
ankitshukla@lt-ankits:~/newDir1$ touch file1.txt file2.txt file3.txt
ankitshukla@lt-ankits:~/newDir1$ cd ..
ankitshukla@lt-ankits:~$ rm -r newDir1
ankitshukla@lt-ankits:~$
```

8. Create a new user group.

```
ankitshukla@lt-ankits: ~  
ankitshukla@lt-ankits:~$ sudo groupadd newUserGroup  
[sudo] password for ankitshukla:  
ankitshukla@lt-ankits:~$
```

9. Create a new user and assign a new user home and the previously created usergroup to the user.

```
ankitshukla@lt-ankits: ~  
-l, --no-log-init          do not add the user to the lastlog and  
                           faillog databases  
-m, --create-home          create the user's home directory  
-M, --no-create-home       do not create the user's home directory  
-N, --no-user-group        do not create a group with the same name as  
                           the user  
-o, --non-unique           allow to create users with duplicate  
                           (non-unique) UID  
-p, --password PASSWORD    encrypted password of the new account  
-r, --system               create a system account  
-R, --root CHROOT_DIR      directory to chroot into  
-P, --prefix PREFIX_DIR    prefix directory where are located the /etc/* fi  
les  
-s, --shell SHELL          login shell of the new account  
-u, --uid UID              user ID of the new account  
-U, --user-group           create a group with the same name as the user  
-Z, --selinux-user SEUSER  use a specific SEUSER for the SELinux user mappi  
ng  
--extrausers               Use the extra users database  
  
ankitshukla@lt-ankits:~$ sudo useradd -g newUserGroup -d /user/test Ankit  
useradd: user 'Ankit' already exists  
ankitshukla@lt-ankits:~$ sudo useradd -g newUserGroup -d /user/test Ankit1  
ankitshukla@lt-ankits:~$
```

10. Create a symbolic link in a different location for the file created in step 3.

```
ankitshukla@lt-ankits: ~/new_dir

-o, --non-unique          the user
                          allow to create users with duplicate
                          (non-unique) UID
-p, --password PASSWORD  encrypted password of the new account
-r, --system              create a system account
-R, --root CHROOT_DIR    directory to chroot into
-P, --prefix PREFIX_DIR  prefix directory where are located the /etc/* fi
les
-s, --shell SHELL         login shell of the new account
-u, --uid UID             user ID of the new account
-U, --user-group          create a group with the same name as the user
-Z, --selinux-user SEUSER use a specific SEUSER for the SELinux user mappi
ng
--extrausers              Use the extra users database

ankitshukla@lt-ankits:~$ sudo useradd -g newUserGroup -d /user/test Ankit
useradd: user 'Ankit' already exists
ankitshukla@lt-ankits:~$ sudo useradd -g newUserGroup -d /user/test Ankit1
ankitshukla@lt-ankits:~$ cd new_dir
ankitshukla@lt-ankits:~/new_dir$ ln -s file.txt
ln: failed to create symbolic link './file.txt': File exists
ankitshukla@lt-ankits:~/new_dir$ ln -s file.txt soft.txt
ankitshukla@lt-ankits:~/new_dir$ ln file.txt hard.txt
ankitshukla@lt-ankits:~/new_dir$
```

11. Open google chrome or any other web browser, see its memory usage using top command and end the process using the ps and grep commands.

```
ankitshukla@lt-ankits: ~/new_dir
6553 ankitsh+ 20 0 1124.6g 253200 103940 S 10.5 1.6 1:12.72 chrome
ankitshukla@lt-ankits:~/new_dir$ top | grep 'chrome'
6553 ankitsh+ 20 0 1124.6g 253200 103940 S 2.7 1.6 1:13.84 chrome

5909 ankitsh+ 20 0 32.5g 238492 160452 S 0.3 1.5 0:30.59 chrome

6553 ankitsh+ 20 0 1124.6g 253200 103940 S 2.7 1.6 1:13.92 chrome

5909 ankitsh+ 20 0 32.5g 238492 160452 S 0.3 1.5 0:30.60 chrome

6553 ankitsh+ 20 0 1124.6g 253200 103940 S 2.7 1.6 1:14.00 chrome

5909 ankitsh+ 20 0 32.5g 238492 160452 S 0.3 1.5 0:30.61 chrome

6553 ankitsh+ 20 0 1124.6g 253200 103940 S 2.3 1.6 1:14.07 chrome

5909 ankitsh+ 20 0 32.5g 238492 160452 S 0.3 1.5 0:30.62 chrome
```

```
Activities Terminal Jul 13 13:12
ankitshukla@lt-ankits: ~/new_dir
6463 ankitsh+ 20 0 1132.5g 184132 99996 S 0.3 1.1 0:06.38 chrome
6553 ankitsh+ 20 0 1124.6g 252920 103940 S 2.7 1.6 1:14.34 chrome
5909 ankitsh+ 20 0 32.5g 238416 160376 S 0.3 1.5 0:30.66 chrome
6553 ankitsh+ 20 0 1124.6g 252920 103940 S 2.3 1.6 1:14.41 chrome
5909 ankitsh+ 20 0 32.5g 238416 160376 S 0.3 1.5 0:30.67 chrome
ankitshukla@lt-ankits:~/new_dir$ ps aux | grep 'chrome'
ankitsh+ 5909 0.5 1.4 34897752 238368 ? Sll 11:28 0:30 /opt/google/chrome/chrome --enable-crashpad
ankitsh+ 5918 0.0 0.0 33576032 3304 ? Sll 11:28 0:00 /opt/google/chrome/chrome_crashpad_handler --monitor-self --monitor-self-annotation=ptype=crashpad-handler --database=/home/ankitshukla/
--config/google-chrome/Crash Reports --metrics-dtr=/home/ankitshukla/.config/google-chrome --url=https://clients2.google.com/cr/report --annotation=channel --annotation=lsb-release=Ubuntu 22.04 LTS --ann
otation=plat-linux --annotation=prod=chrome_linux --annotation=ver=103.0.5060.114 --initial-client-fd=4 --shared-client-connection
ankitsh+ 5920 0.0 0.0 33567596 1628 ? Sll 11:28 0:00 /opt/google/chrome/chrome_crashpad_handler --no-periodic-tasks --monitor-self-annotation=ptype=crashpad-handler --database=/home/ankitsh
ukla/.config/google-chrome/Crash Reports --metrics-dtr=/home/ankitshukla/.config/google-chrome --url=https://clients2.google.com/cr/report --annotation=channel --annotation=lsb-release=Ubuntu 22.04 LTS --annotation=plat-linux --annotation=prod=chrome_linux
--annotation=ver=103.0.5060.114 --initial-client-fd=4 --shared-client-connection
ankitsh+ 5920 0.0 0.0 33837312 58336 ? Sll 11:28 0:00 /opt/google/chrome/chrome --type=zygote --no-zygote-sandbox --enable-crashpad --crashpad-handler-pid=5918 --enable-crash-reporter=59ad845d-7029-4e7a-86c4-61
5d-7029-4e7a-86c4-6137691d9e82 --change-stack-guard-on-fork=enable --enable-crashpad
ankitsh+ 5927 0.0 0.3 33837304 59104 ? Sll 11:28 0:00 /opt/google/chrome/chrome --type=zygote --enable-crashpad --crashpad-handler-pid=5918 --enable-crash-reporter=59ad845d-7029-4e7a-86c4-61
37691d9e82 --change-stack-guard-on-fork=enable --enable-crashpad
ankitsh+ 5928 0.0 0.0 33563244 4160 ? Sll 11:28 0:00 /opt/google/chrome/nacl_helper
ankitsh+ 5931 0.0 0.1 33837332 16356 ? Sll 11:28 0:00 /opt/google/chrome/chrome --type=zygote --enable-crashpad --crashpad-handler-pid=5918 --enable-crash-reporter=59ad845d-7029-4e7a-86c4-61
37691d9e82 --change-stack-guard-on-fork=enable --enable-crashpad
ankitsh+ 5956 1.0 1.0 34359096 169344 ? Sll 11:28 1:05 /opt/google/chrome/chrome --type=gpu-process --enable-crashpad --crashpad-handler-pid=5918 --enable-crash-reporter=59ad845d-7029-4e7a-86
c4-6137691d9e82 --change-stack-guard-on-fork=enable --gpu-preferences=AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAA --shared-files --field-trial-handle=0,1,569206774557681631,634851725605993727,131072
ankitsh+ 5958 0.1 0.6 33894684 104888 ? Sll 11:28 0:08 /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=5918 --enable-crash-reporter=59ad845d-7029-4e7a-86c4-61
37691d9e82 --change-stack-guard-on-fork=enable --shared-files=v8_context_snapshot_data:100 --field-trial-handle=0,1,569206774557681631,634851725605993727,131072
ankitsh+ 5976 0.0 0.2 33878712 47400 ? Sll 11:28 0:00 /opt/google/chrome/chrome --type=utility --utility-sub-type=storage.mojom.StorageService --lang=en-GB --service-sandbox-type=utility --e
nable-crashpad --crashpad-handler-pid=5918 --enable-crash-reporter=59ad845d-7029-4e7a-86c4-6137691d9e82 --change-stack-guard-on-fork=enable --shared-files=v8_context_snapshot_data:100 --field-trial-hand
le=0,1,569206774557681631,634851725605993727,131072
ankitsh+ 6148 0.8 1.0 1183387856 166036 ? Sll 11:28 0:52 /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=5918 --enable-crash-reporter=59ad845d-7029-4e7a-86c4-61
37691d9e82 --display-capture-permissions-policy=allowed --change-stack-guard-on-fork=enable --lang=en-GB --num-raster-threads=4 --enable-main-frame-before-activation --renderer-client-id=12 --launch-t
ime-ticks=4058238407 --shared-files=v8_context_snapshot_data:100 --field-trial-handle=0,1,569206774557681631,634851725605993727,131072
ankitsh+ 6378 0.0 0.8 1179198096 137920 ? Sll 11:32 0:03 /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=5918 --enable-crash-reporter=59ad845d-7029-4e7a-86c4-61
37691d9e82 --display-capture-permissions-policy=allowed --change-stack-guard-on-fork=enable --lang=en-GB --num-raster-threads=4 --enable-main-frame-before-activation --renderer-client-id=23 --launch-t
ime-ticks=4293519938 --shared-files=v8_context_snapshot_data:100 --field-trial-handle=0,1,569206774557681631,634851725605993727,131072
ankitsh+ 6463 0.1 1.1 1183369484 182608 ? Sll 11:33 0:06 /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=5918 --enable-crash-reporter=59ad845d-7029-4e7a-86c4-61
37691d9e82 --display-capture-permissions-policy=allowed --change-stack-guard-on-fork=enable --lang=en-GB --num-raster-threads=4 --enable-main-frame-before-activation --renderer-client-id=29 --launch-t
ime-ticks=431728990 --shared-files=v8_context_snapshot_data:100 --field-trial-handle=0,1,569206774557681631,634851725605993727,131072
ankitsh+ 6553 1.3 1.5 1183413172 254708 ? Sll 11:34 1:15 /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=5918 --enable-crash-reporter=59ad845d-7029-4e7a-86c4-61
37691d9e82 --display-capture-permissions-policy=allowed --change-stack-guard-on-fork=enable --lang=en-GB --num-raster-threads=4 --enable-main-frame-before-activation --renderer-client-id=33 --launch-t
ime-ticks=4377938031 --shared-files=v8_context_snapshot_data:100 --field-trial-handle=0,1,569206774557681631,634851725605993727,131072
ankitsh+ 6587 0.0 0.4 34140332 74736 ? Sll 11:34 0:00 /opt/google/chrome/chrome --type=utility --utility-sub-type=audio.mojom.AudioService --lang=en-GB --service-sandbox-type=none --enable-c
rashpad --crashpad-handler-pid=5918 --enable-crash-reporter=59ad845d-7029-4e7a-86c4-6137691d9e82 --change-stack-guard-on-fork=enable --shared-files=v8_context_snapshot_data:100 --field-trial-handle=0,1,
569206774557681631,634851725605993727,131072 --enable-crashpad
ankitsh+ 6595 0.0 0.7 1179155408 124264 ? Sll 11:34 0:03 /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=5918 --enable-crash-reporter=59ad845d-7029-4e7a-86c4-61
37691d9e82 --display-capture-permissions-policy=allowed --change-stack-guard-on-fork=enable --lang=en-GB --num-raster-threads=4 --enable-main-frame-before-activation --renderer-client-id=36 --launch-t
ime-ticks=4381356523 --shared-files=v8_context_snapshot_data:100 --field-trial-handle=0,1,569206774557681631,634851725605993727,131072
ankitsh+ 7941 0.0 0.5 1179142976 91888 ? Sll 11:54 0:00 /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=5918 --enable-crash-reporter=59ad845d-7029-4e7a-86c4-61
37691d9e82 --display-capture-permissions-policy=allowed --change-stack-guard-on-fork=enable --lang=en-GB --num-raster-threads=4 --enable-main-frame-before-activation --renderer-client-id=37 --launch-t
ime-ticks=561869941 --shared-files=v8_context_snapshot_data:100 --field-trial-handle=0,1,569206774557681631,634851725605993727,131072
ankitsh+ 7985 0.0 0.4 1179142292 66204 ? Sll 11:54 0:00 /opt/google/chrome/chrome --type=renderer --enable-crashpad --crashpad-handler-pid=5918 --enable-crash-reporter=59ad845d-7029-4e7a-86c4-61
37691d9e82 --display-capture-permissions-policy=allowed --change-stack-guard-on-fork=enable --lang=en-GB --num-raster-threads=4 --enable-main-frame-before-activation --renderer-client-id=38 --launch-t
ime-ticks=561869936 --shared-files=v8_context_snapshot_data:100 --field-trial-handle=0,1,569206774557681631,634851725605993727,131072
ankitsh+ 9292 0.0 0.0 17864 2464 pts/0 S+ 13:11 0:00 grep --color=auto chrome
ankitshukla@lt-ankits:~/new_dir$
```