

# **ASSIGNMENT 2 – USER MANAGEMENT ASSIGNMENT**

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## **ANSWERS SECTION 1:**

**Ans 1-** A user can belong to one primary group and multiple secondary groups. Groups cannot directly belong to other groups.

Explanation:

Primary group: The group associated with a user when they are created.

Secondary groups: Additional groups a user can belong to.

**Ans 2-** The files containing local accounts and hashed passwords are located at '/etc/passwd' and '/etc/shadow', respectively.

Explanation:

'/etc/passwd' holds user account information.

'/etc/shadow' stores the encrypted passwords and other security-related information.

**Ans 3-** The default values for the shadow password suite are defined in the /etc/login.defs file.

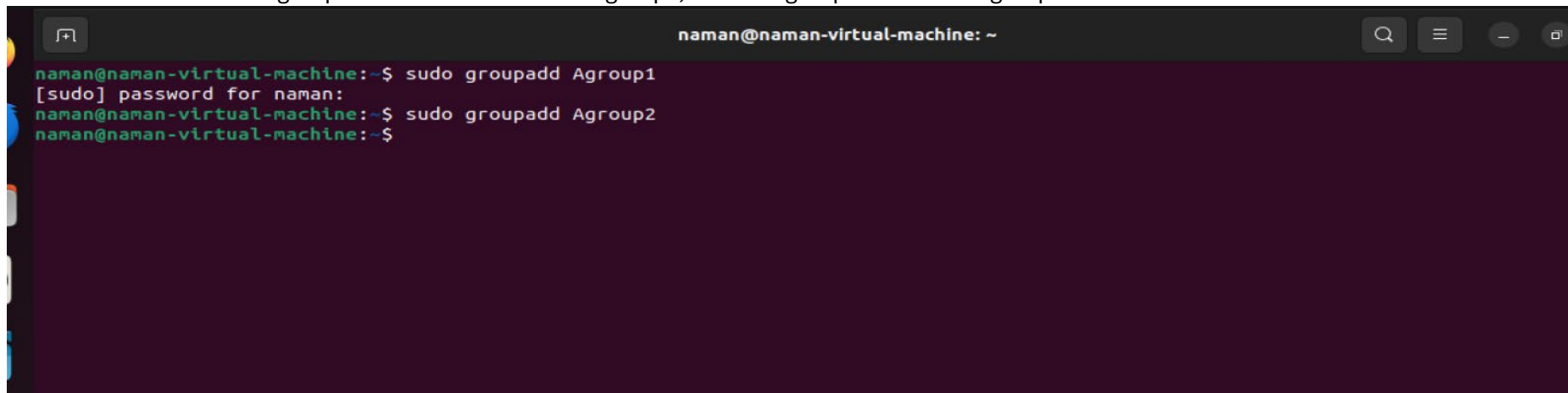
Explanation:

This file sets configuration parameters for user login and password policies.

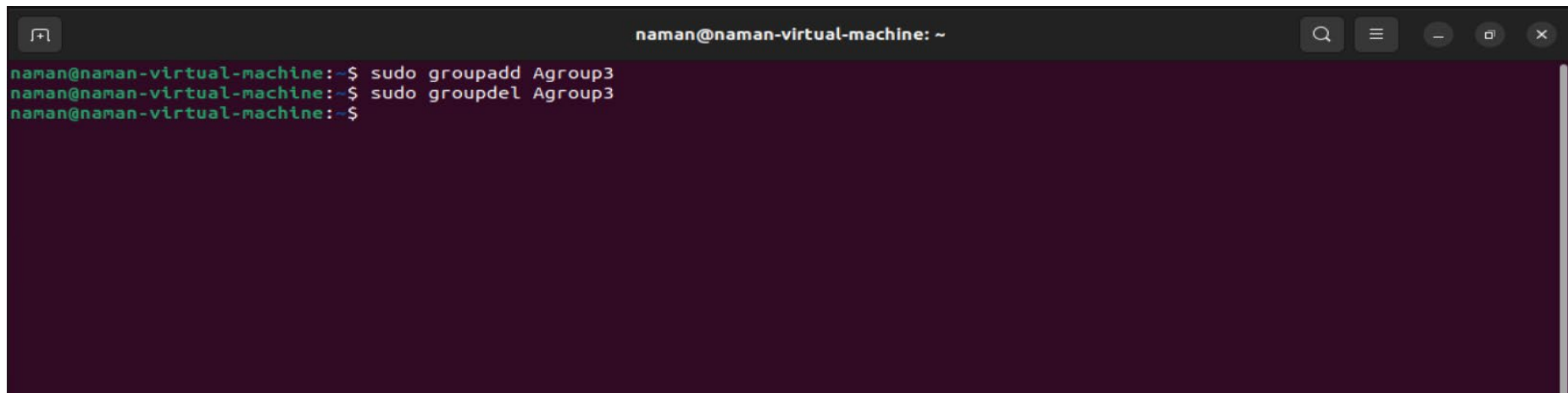
## ANSWERS SECTION 2:

### Ans 1 – Command to create and delete groups.

We use the 'groupadd' command to create groups, and use 'groupdel' to delete groups as shown in the screenshot below



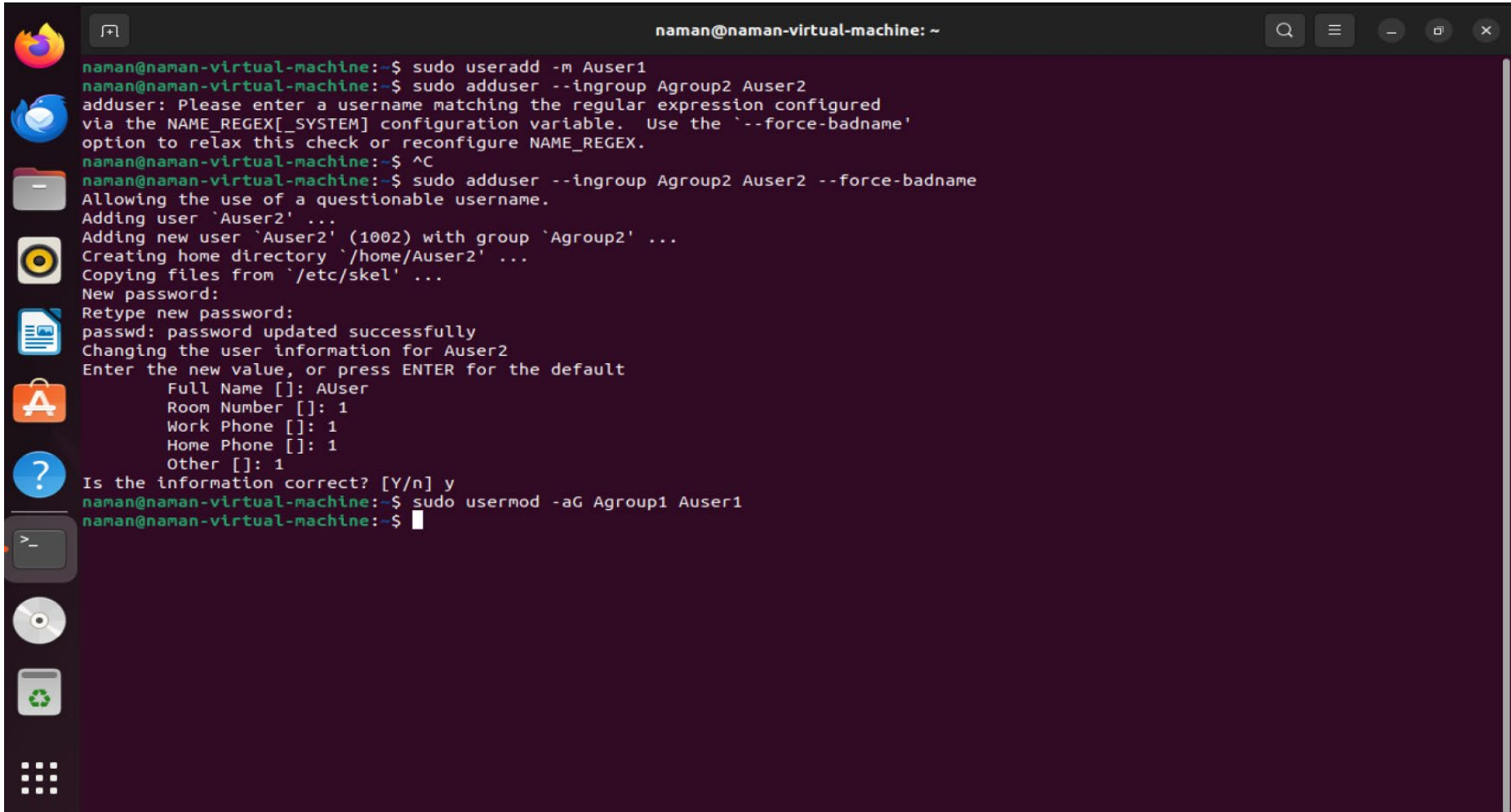
```
naman@naman-virtual-machine: ~  
naman@naman-virtual-machine:~$ sudo groupadd Agroup1  
[sudo] password for naman:  
naman@naman-virtual-machine:~$ sudo groupadd Agroup2  
naman@naman-virtual-machine:~$
```



```
naman@naman-virtual-machine:~$ sudo groupadd Agroup3  
naman@naman-virtual-machine:~$ sudo groupdel Agroup3  
naman@naman-virtual-machine:~$
```

### Ans 3 – Commands to create and add users to the group.

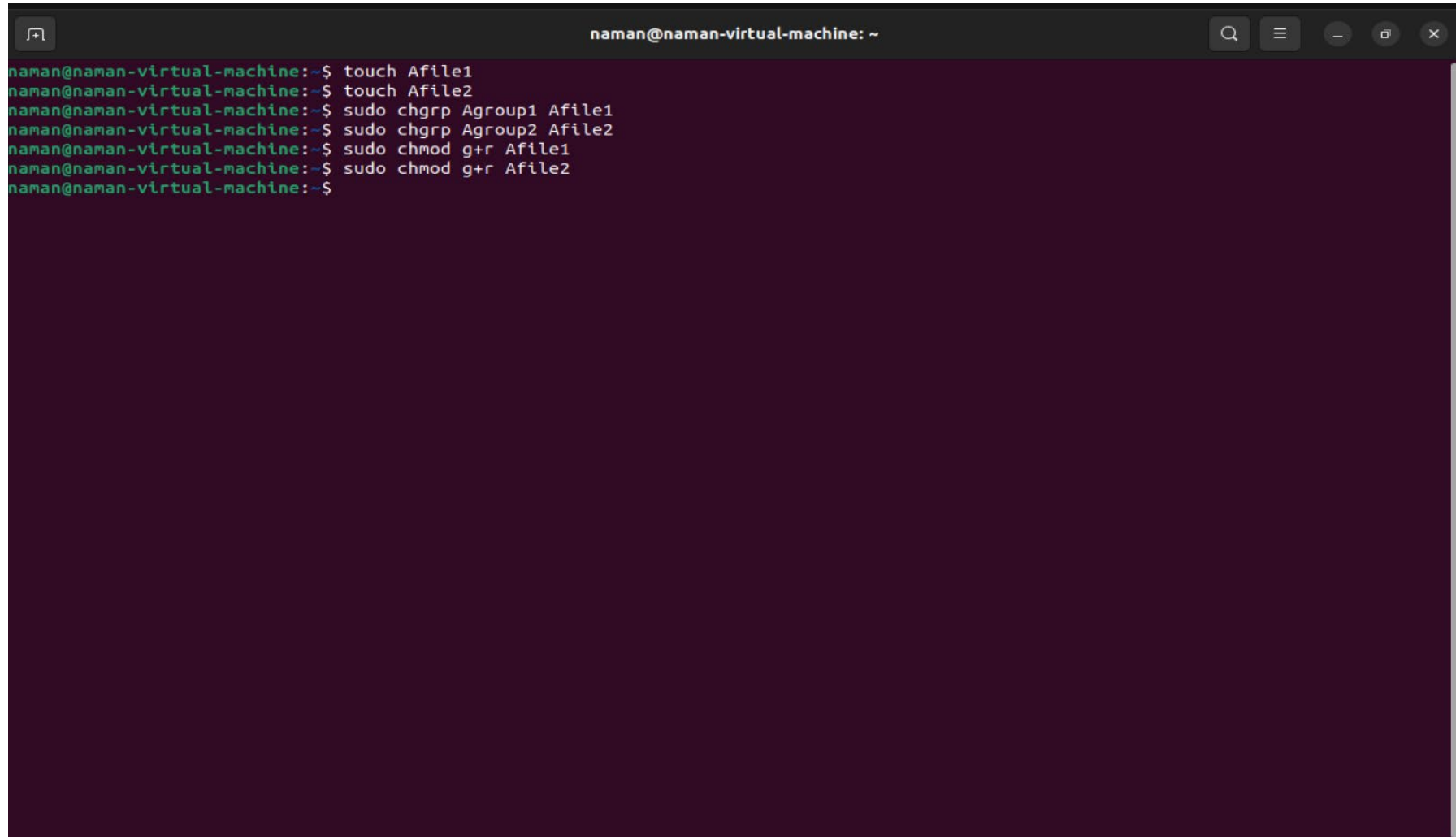
To add the users to a group, follow the 'usermod' command, which requires the user to be originally added before. If you want to create and add user simultaneously, use 'adduser -ingroup' followed by <groupname> and <username> as shown below

A terminal window titled 'naman@naman-virtual-machine: ~' with a dark purple background. The window shows a series of commands and their outputs. On the left side of the terminal, there is a vertical dock with various application icons: Firefox, Telegram, a file manager, a media player, an app store, a help icon, a terminal icon, a CD icon, a recycling bin, and a grid icon. The terminal text is as follows:

```
naman@naman-virtual-machine:~$ sudo useradd -m Auser1
naman@naman-virtual-machine:~$ sudo adduser --ingroup Agroup2 Auser2
adduser: Please enter a username matching the regular expression configured
via the NAME_REGEX[_SYSTEM] configuration variable. Use the '--force-badname'
option to relax this check or reconfigure NAME_REGEX.
naman@naman-virtual-machine:~$ ^C
naman@naman-virtual-machine:~$ sudo adduser --ingroup Agroup2 Auser2 --force-badname
Allowing the use of a questionable username.
Adding user `Auser2' ...
Adding new user `Auser2' (1002) with group `Agroup2' ...
Creating home directory `/home/Auser2' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for Auser2
Enter the new value, or press ENTER for the default
  Full Name []: AUser
   Room Number []: 1
  Work Phone []: 1
   Home Phone []: 1
        Other []: 1
Is the information correct? [Y/n] y
naman@naman-virtual-machine:~$ sudo usermod -aG Agroup1 Auser1
naman@naman-virtual-machine:~$
```

## Ans 2 – Commands to add files to groups and change group permissions.

Use 'chgrp' command to add files to the group, user chmod to change permissions of group for a file or folder.



```
naman@naman-virtual-machine: ~  
naman@naman-virtual-machine:~$ touch Afile1  
naman@naman-virtual-machine:~$ touch Afile2  
naman@naman-virtual-machine:~$ sudo chgrp Agroup1 Afile1  
naman@naman-virtual-machine:~$ sudo chgrp Agroup2 Afile2  
naman@naman-virtual-machine:~$ sudo chmod g+r Afile1  
naman@naman-virtual-machine:~$ sudo chmod g+r Afile2  
naman@naman-virtual-machine:~$
```

## ANSWERS SECTION 3

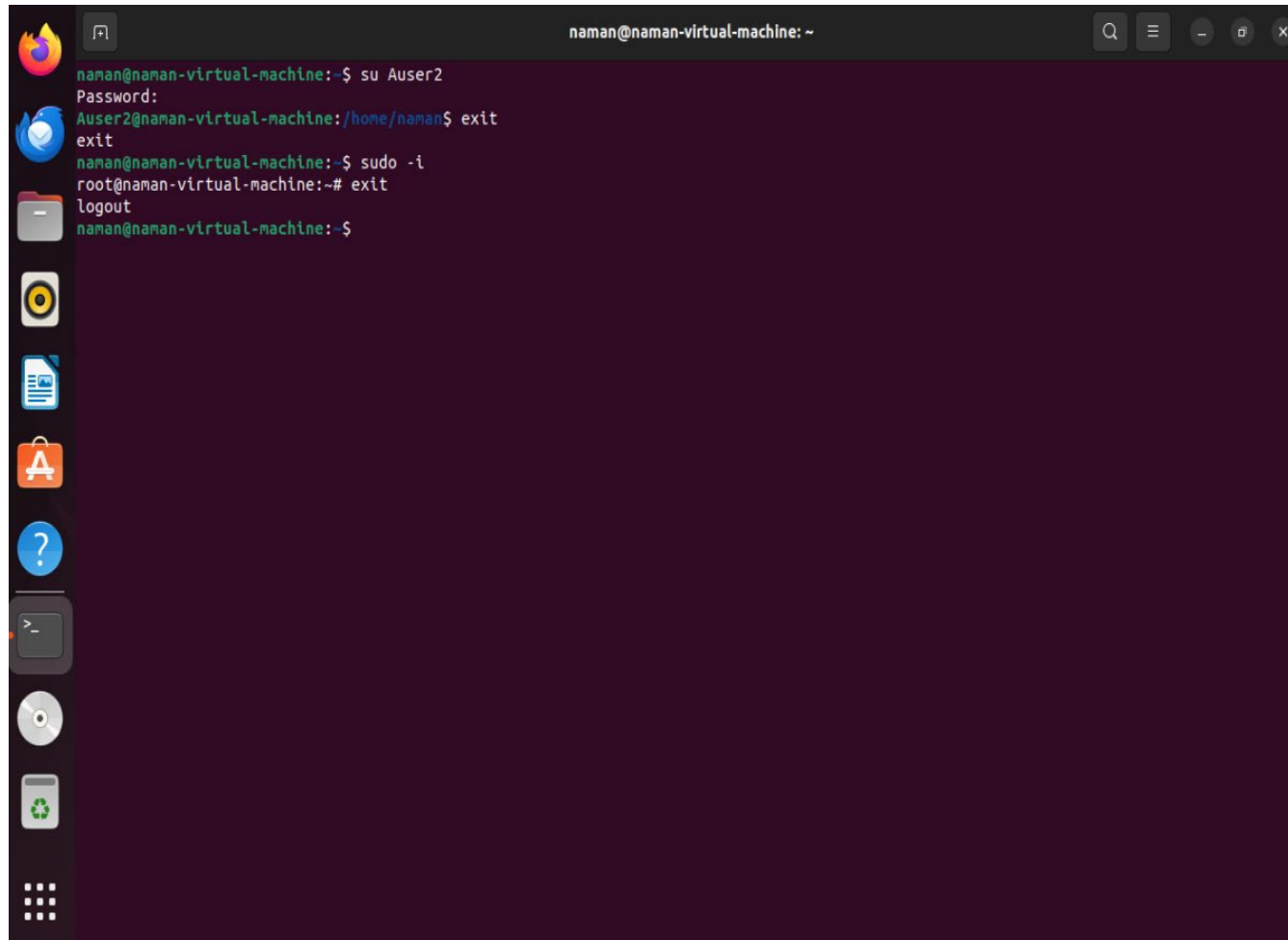
### Ans 1 – Meaning of two (!) exclamation mark in the shadow file

The presence of !! next to the account name in the shadow file indicates that the account has been disabled or locked, as shown.

```
list:!:19576:0:99999:7:::
irc:!:19576:0:99999:7:::
gnats:!:19576:0:99999:7:::
nobody:!:19576:0:99999:7:::
systemd-network:!:19576:0:99999:7:::
systemd-resolve:!:19576:0:99999:7:::
messagebus:!:19576:0:99999:7:::
systemd-timesync:!:19576:0:99999:7:::
syslog:!:19576:0:99999:7:::
_apt:!:19576:0:99999:7:::
tss:!:19576:0:99999:7:::
uidd:!:19576:0:99999:7:::
systemd-oom:!:19576:0:99999:7:::
tcpdump:!:19576:0:99999:7:::
avahi-autoipd:!:19576:0:99999:7:::
usbmux:!:19576:0:99999:7:::
dnsmasq:!:19576:0:99999:7:::
k...:!:19576:0:99999:7:::
Ubuntu Software :99999:7:::
cups-pk-helper:!:19576:0:99999:7:::
rtkit:!:19576:0:99999:7:::
whoopsie:!:19576:0:99999:7:::
sssd:!:19576:0:99999:7:::
speech-dispatcher:!:19576:0:99999:7:::
fwupd-refresh:!:19576:0:99999:7:::
nm-openvpn:!:19576:0:99999:7:::
saned:!:19576:0:99999:7:::
colord:!:19576:0:99999:7:::
geoclue:!:19576:0:99999:7:::
pulse:!:19576:0:99999:7:::
gnome-initial-setup:!:19576:0:99999:7:::
hplip:!:19576:0:99999:7:::
gdm:!:19576:0:99999:7:::
naman:$y$j9T$lxVxbftzTcyBMAvsNEjiG0$IUUs19h8sRlxWdZ3PFEAB1nLR9e2JiFDWMwD45/ne15:19740:0:99999:7:::
lab:!:19768:0:99999:7:::
cherry:$y$j9T$NM9Lby2VrjcnbQN2VcORU.$ctUA94UJ2lA9uLCvP4ziIUTy3LB0Qn47WypAVqSQ08A:19775:0:99999:7:::
Auser1:!:19789:0:99999:7:::
Auser2:$y$j9T$XksbzhdpMGQWHYHogRYi00$tGs6z/v1AKhBWVp00r8ziMzZ3yrH3HGCwaow35Y3jX8:19789:0:99999:7:::
ALockeduser:!!:$y$j9T$3rAcJfIR1aRrKj7sm50m21$RD6CosgNn4kYIXZggn.82tLs0YWN4QVFGPRKaotkTB:19789:0:99999:7:::
naman@naman-virtual-machine:~$
```

## Ans 2 – Reasons for switching users and difference between su and sudo.

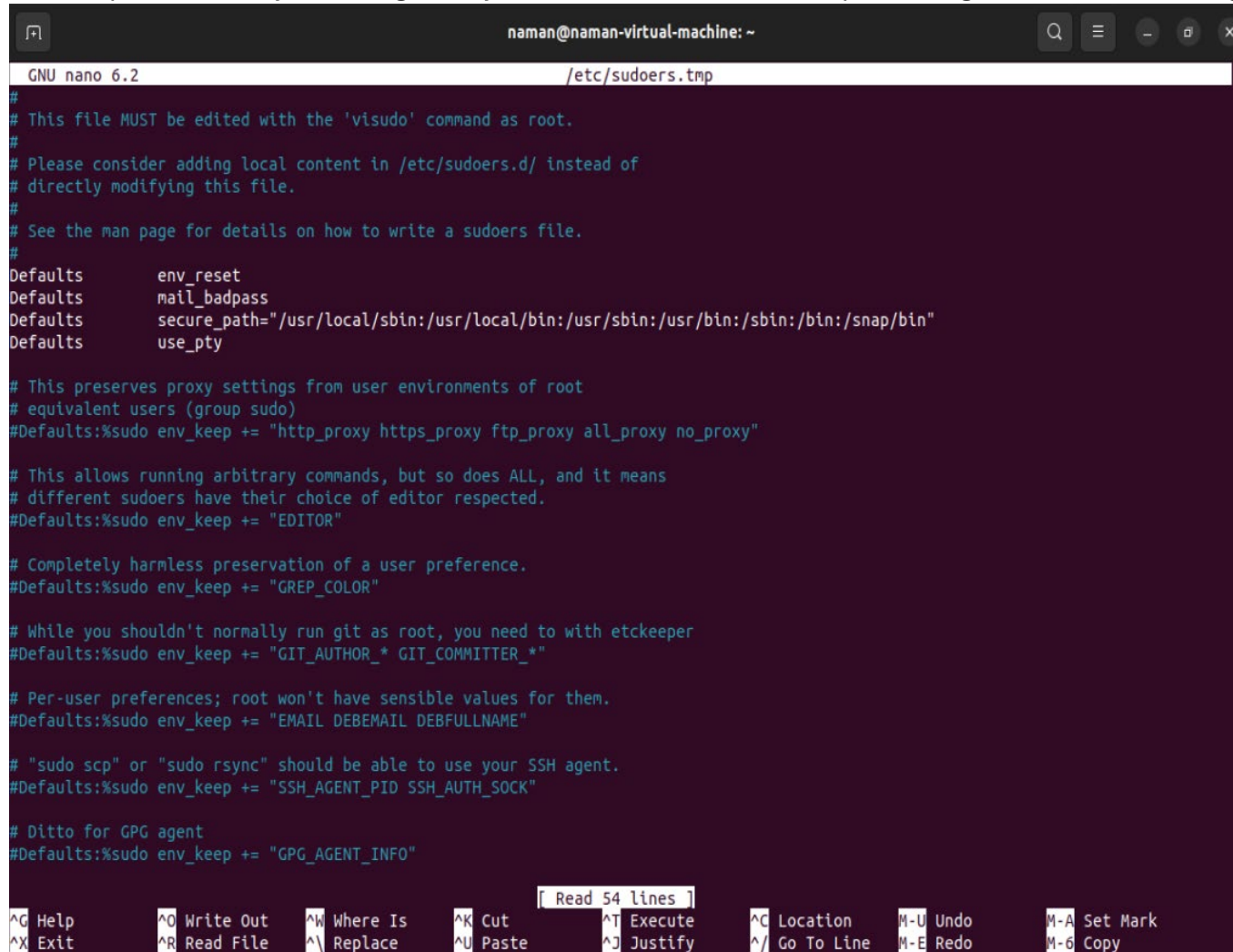
You might switch to a different user for various reasons, such as performing tasks that require different privileges. The su command is used to switch to another user, while sudo is used to execute commands with elevated privileges.

A terminal window titled 'naman@naman-virtual-machine: ~' with standard window controls. The terminal shows a sequence of commands and outputs: 'su Auser2' prompts for a password, then 'exit' returns to the original user. 'sudo -i' prompts for a password, then 'exit' returns to the original user. The terminal has a dark purple background and a sidebar with application icons on the left.

```
naman@naman-virtual-machine:~$ su Auser2
Password:
Auser2@naman-virtual-machine:/home/naman$ exit
exit
naman@naman-virtual-machine:~$ sudo -i
root@naman-virtual-machine:~# exit
logout
naman@naman-virtual-machine:~$
```

### Ans 3 – Command to edit the superuser's configuration file

The command 'sudo visudo' is used to edit the sudoers file, which defines the configuration for the sudo command. It opens the sudoers file in a protected way, ensuring that syntax errors are avoided and preventing accidental misconfigurations.



```
naman@naman-virtual-machine: ~
GNU nano 6.2 /etc/sudoers.tmp
#
# This file MUST be edited with the 'visudo' command as root.
#
# Please consider adding local content in /etc/sudoers.d/ instead of
# directly modifying this file.
#
# See the man page for details on how to write a sudoers file.
#
Defaults        env_reset
Defaults        mail_badpass
Defaults        secure_path="/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/snap/bin"
Defaults        use_pty

# This preserves proxy settings from user environments of root
# equivalent users (group sudo)
#Defaults:%sudo env_keep += "http_proxy https_proxy ftp_proxy all_proxy no_proxy"

# This allows running arbitrary commands, but so does ALL, and it means
# different sudoers have their choice of editor respected.
#Defaults:%sudo env_keep += "EDITOR"

# Completely harmless preservation of a user preference.
#Defaults:%sudo env_keep += "GREP_COLOR"

# While you shouldn't normally run git as root, you need to with etckeeper
#Defaults:%sudo env_keep += "GIT_AUTHOR_* GIT_COMMITTER_*"

# Per-user preferences; root won't have sensible values for them.
#Defaults:%sudo env_keep += "EMAIL DEBEMAIL DEBFULLNAME"

# "sudo scp" or "sudo rsync" should be able to use your SSH agent.
#Defaults:%sudo env_keep += "SSH_AGENT_PID SSH_AUTH_SOCK"

# Ditto for GPG agent
#Defaults:%sudo env_keep += "GPG_AGENT_INFO"

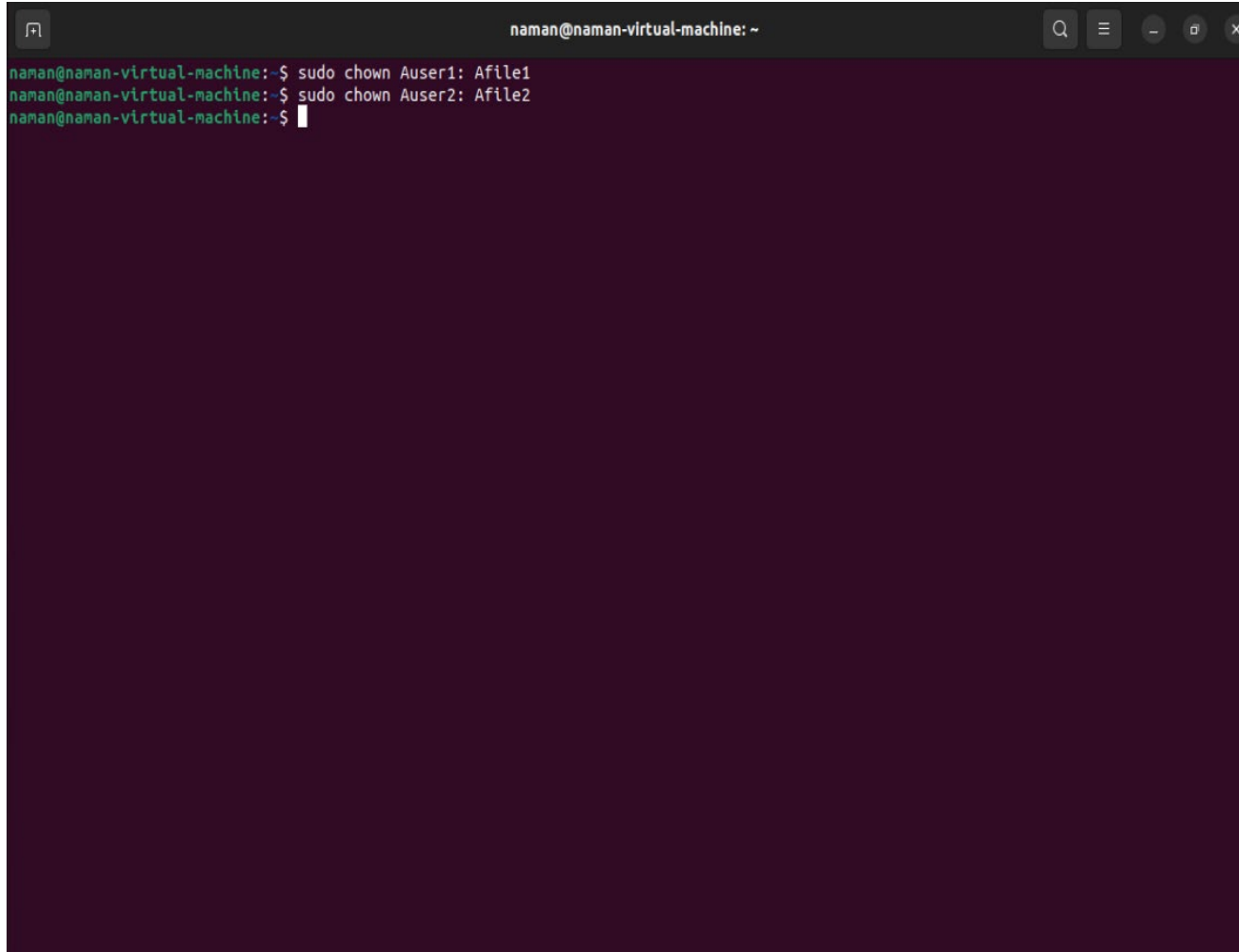
Read 54 lines
^G Help      ^O Write Out ^W Where Is  ^K Cut       ^T Execute   ^C Location  M-U Undo     M-A Set Mark
^X Exit      ^R Read File ^\ Replace   ^U Paste     ^J Justify   ^_ Go To Line  M-E Redo     M-6 Copy
```



## ANSWERS SECTION 4

### Ans 1 – Command to change the owner of a file or directory.

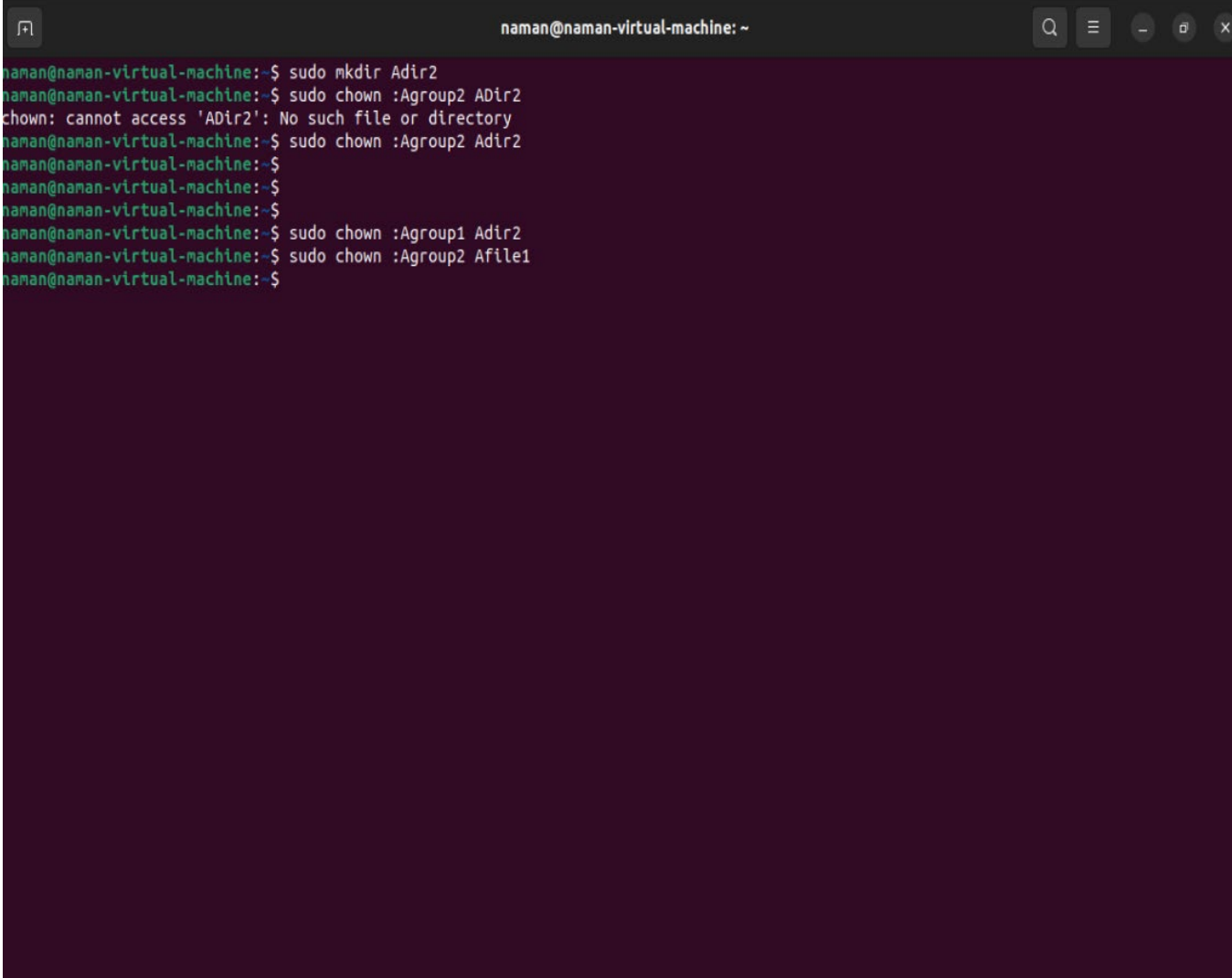
The command 'sudo chown new\_owner: new\_file' is used to change the owner of the file.

A terminal window with a dark background and light green text. The window title is 'naman@naman-virtual-machine: ~'. The terminal shows three lines of command execution: 'naman@naman-virtual-machine:~\$ sudo chown Auser1: Afile1', 'naman@naman-virtual-machine:~\$ sudo chown Auser2: Afile2', and 'naman@naman-virtual-machine:~\$' followed by a cursor. The window has standard Linux window controls (minimize, maximize, close) and a search icon in the top right corner.

```
naman@naman-virtual-machine:~$ sudo chown Auser1: Afile1
naman@naman-virtual-machine:~$ sudo chown Auser2: Afile2
naman@naman-virtual-machine:~$
```

## Ans 2 – Command to change the group ownership of a file or directory.

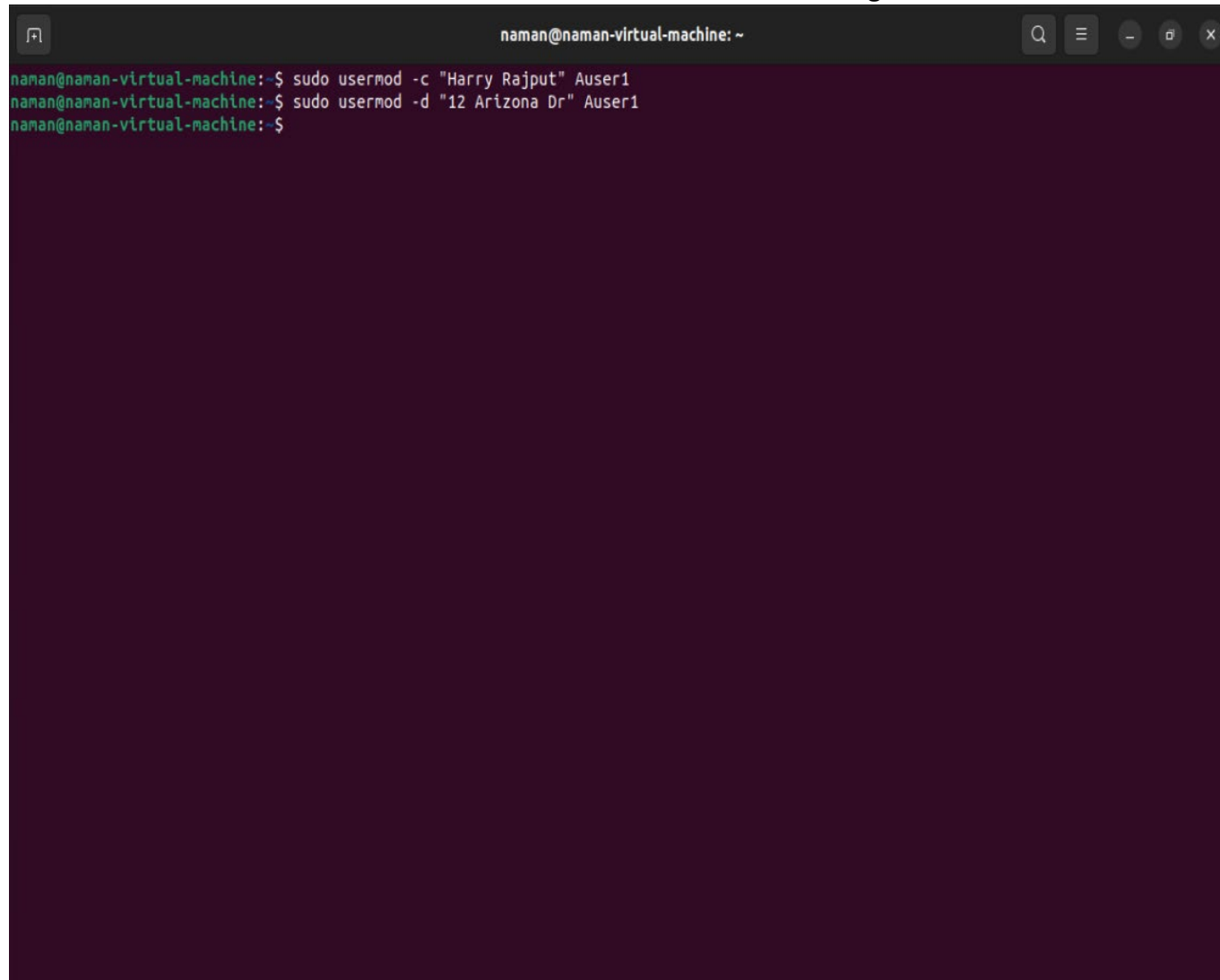
The command 'sudo chown :new\_group new\_file' is used to change group ownership of a file or directory.



```
naman@naman-virtual-machine: ~  
naman@naman-virtual-machine:~$ sudo mkdir Adir2  
naman@naman-virtual-machine:~$ sudo chown :Agroup2 Adir2  
chown: cannot access 'Adir2': No such file or directory  
naman@naman-virtual-machine:~$ sudo chown :Agroup2 Adir2  
naman@naman-virtual-machine:~$  
naman@naman-virtual-machine:~$  
naman@naman-virtual-machine:~$  
naman@naman-virtual-machine:~$ sudo chown :Agroup1 Adir2  
naman@naman-virtual-machine:~$ sudo chown :Agroup2 Afile1  
naman@naman-virtual-machine:~$
```

### Ans 3 – Command to change user's full name and other details.

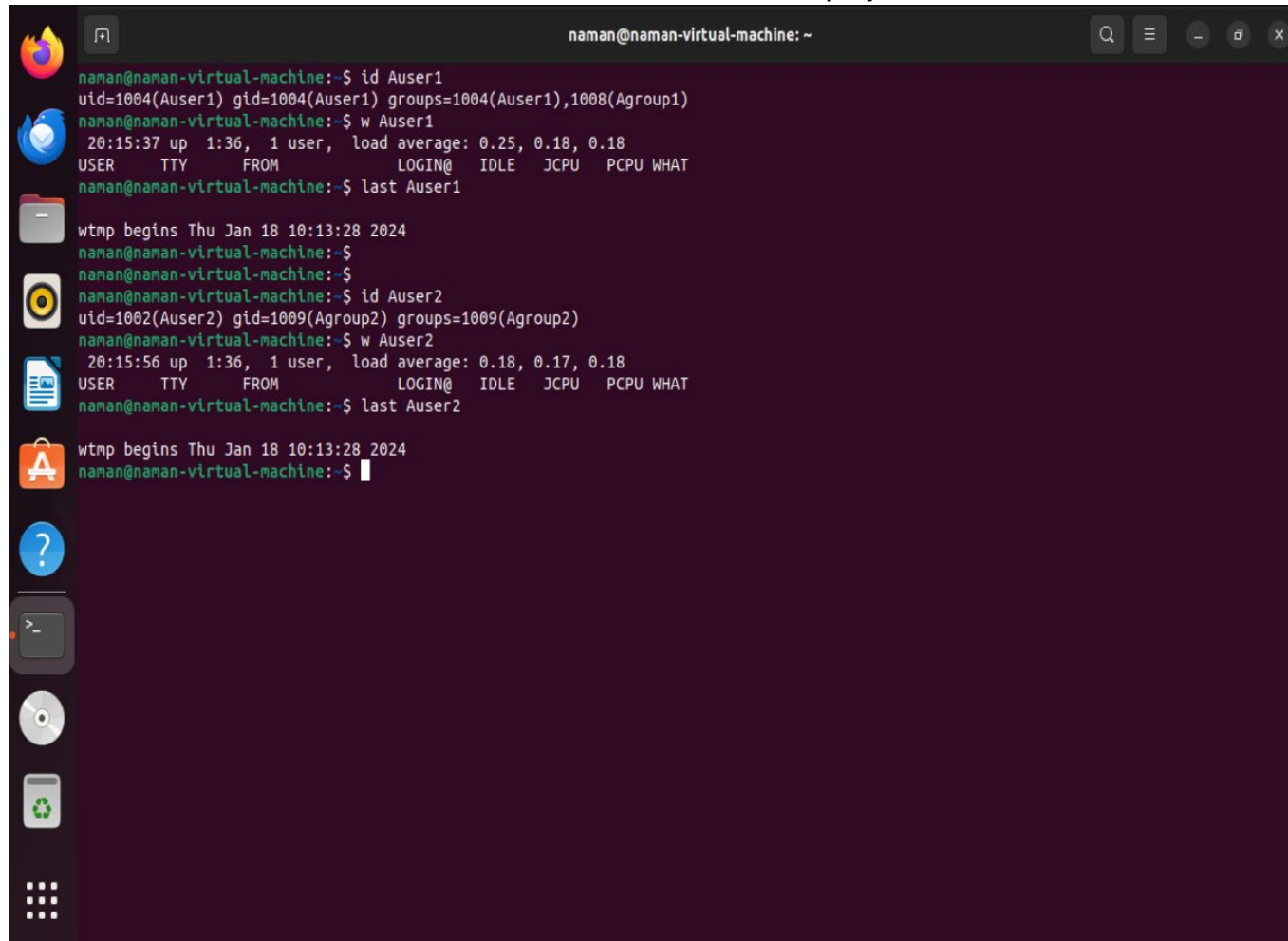
The command 'sudo usermod username' is used to change user's details.

A terminal window with a dark background and light green text. The window title is 'naman@naman-virtual-machine: ~'. It shows two commands being executed: 'sudo usermod -c "Harry Rajput" Auser1' and 'sudo usermod -d "12 Arizona Dr" Auser1'. The prompt 'naman@naman-virtual-machine:~\$' is visible at the end of each line.

```
naman@naman-virtual-machine: ~  
naman@naman-virtual-machine:~$ sudo usermod -c "Harry Rajput" Auser1  
naman@naman-virtual-machine:~$ sudo usermod -d "12 Arizona Dr" Auser1  
naman@naman-virtual-machine:~$
```

## Ans 4 – Command to display detailed user information.

The commands 'id or w or last username' are used to display detailed user information.



A terminal window titled 'naman@naman-virtual-machine: ~' with a dark purple background. The window shows a series of commands and their outputs. On the left side of the terminal, there is a vertical dock with several application icons: Firefox, a blue bird icon, a folder icon, a yellow circle icon, a document icon, an application icon, a question mark icon, a terminal icon, a CD icon, a recycling icon, and a grid icon. The terminal output is as follows:

```
naman@naman-virtual-machine:~$ id Auser1
uid=1004(Auser1) gid=1004(Auser1) groups=1004(Auser1),1008(Agroup1)
naman@naman-virtual-machine:~$ w Auser1
20:15:37 up 1:36, 1 user, load average: 0.25, 0.18, 0.18
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU WHAT
naman@naman-virtual-machine:~$ last Auser1

wtmp begins Thu Jan 18 10:13:28 2024
naman@naman-virtual-machine:~$
naman@naman-virtual-machine:~$
naman@naman-virtual-machine:~$ id Auser2
uid=1002(Auser2) gid=1009(Agroup2) groups=1009(Agroup2)
naman@naman-virtual-machine:~$ w Auser2
20:15:56 up 1:36, 1 user, load average: 0.18, 0.17, 0.18
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU WHAT
naman@naman-virtual-machine:~$ last Auser2

wtmp begins Thu Jan 18 10:13:28 2024
naman@naman-virtual-machine:~$
```