

In this assignment, you should replace xxxxx with your MIDAS ID in all occurrences.

Task A – User Account management (8 * 5 = 40 points)

1. Open a terminal window in VM and execute the correct command to display user account information (including the login shell and home directory) for the current user using grep.

```
karan@karan-VirtualBox:~$ cat /etc/passwd|grep "karan"
karan:x:1000:1000:Karan,,,:/home/karan:/bin/bash
```

2. Execute the correct command to display user password information (including the encrypted password and password aging) for the current user using grep.

```
karan@karan-VirtualBox:~$ sudo grep karan /etc/shadow
[sudo] password for karan:
karan:$y$j9T$/DI27lllyWjUM4pLqak0r.$2lM3tBUYNbsItIPNvUftqORXmd.yUFEM.MluYyRfQb5:19371:0:99999:7:::
```

3. Create a new user named xxxxx and explicitly use options to create the home directory /home/xxxxx for this user.

```
karan@karan-VirtualBox:~$ sudo useradd --create-home kmuda002
```

4. Set a password for the new user.

```
karan@karan-VirtualBox:~$ sudo passwd kmuda002
New password:
Retype new password:
passwd: password updated successfully
```

5. Set bash shell as the default login shell for the new user xxxxx, then verify the change.

```
karan@karan-VirtualBox:~$ sudo usermod -s /bin/bash kmuda002
karan@karan-VirtualBox:~$ cat /etc/passwd |grep "kmuda002"
kmuda002:x:1001:1001::/home/kmuda002:/bin/bash
```

6. Execute the correct command to display user password information (including the encrypted password and password aging) for the new user xxxxx using grep.

```
karan@karan-VirtualBox:~$ sudo grep kmuda002 /etc/shadow
kmuda002:$y$j9T$9V06jiH3yU8xmIW1I2m7c1$MCKhQvTEU1p1f3YggSTmz380DMH4M8CADZU0X0oNlm2:19390:0:99999:7:::
```

7. Add the new user xxxxx to sudo group without overriding the existing group membership.

```
karan@karan-VirtualBox:~$ sudo usermod -aG sudo kmuda002
```

8. Switch to the new user's account.

```
karan@karan-VirtualBox:~$ su kmuda002
Password:
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

kmuda002@karan-VirtualBox:/home/karan$ sudo kmuda002
```

Task B – Group account management (12 * 5 = 60 points)

Use Linux commands to execute the following tasks:

1. Return to your home directory and determine the shell you are using.

```
kmuda002@karan-VirtualBox:~$ cd ~
kmuda002@karan-VirtualBox:~$ cat /etc/passwd |grep "kmuda002"
kmuda002:x:1001:1001:~/home/kmuda002:/bin/bash
```

2. Display the current user's ID and group membership.

```
kmuda002@karan-VirtualBox:~$ id
uid=1001(kmuda002) gid=1001(kmuda002) groups=1001(kmuda002),27(sudo)
```

3. Display the group membership of the root account.

```
kmuda002@karan-VirtualBox:~$ groups root
root : root
```

4. Run the correct command to determine the user owner and group owner of the /etc/group file.

```
kmuda002@karan-VirtualBox:~$ ls -l /etc/group
-rw-r--r-- 1 root root 1117 Feb  1 21:19 /etc/group
```

5. Create a new group named test and use your UIN as the GID.

```
kmuda002@karan-VirtualBox:~$ sudo groupadd -g 01230332 test
```

6. Display the group account information for the test group using grep.

```
kmuda002@karan-VirtualBox:~$ sudo grep test /etc/group
test:x:1230332:
```

7. Change the group name of the test group to newtest.

```
kmuda002@karan-VirtualBox:~$ sudo groupmod --new-name newtest test
[sudo] password for kmuda002:
kmuda002@karan-VirtualBox:~$ sudo grep newtest /etc/group
newtest:x:1230332:
```

8. Add the current account (xxxxx) as a secondary member of the newtest group without overriding this user's current group membership.

```
kmuda002@karan-VirtualBox:~$ sudo usermod -a -G newtest kmuda002
```

9. Create a new file testfile in the account's home directory, then change the group owner to newtest.

```
kmuda002@karan-VirtualBox:~$ touch testfile
kmuda002@karan-VirtualBox:~$ sudo chgrp newtest testfile
```

10. Display the user owner and group owner information of the file testfile?

```
kmuda002@karan-VirtualBox:~$ ls -l testfile
-rw-rw-r-- 1 kmuda002 newtest 0 Feb  3 21:46 testfile
```

11. Delete the newtest group, then repeat the previous step. What do you find?

It starts showing GID instead of group name.

```
kmuda002@karan-VirtualBox:~$ sudo groupdel newtest
kmuda002@karan-VirtualBox:~$ ls -l testfile
-rw-rw-r-- 1 kmuda002 1230332 0 Feb  3 21:46 testfile
```

12. Delete the user xxxxx along with the home directory using a single command.

```
kmuda002@karan-VirtualBox:~$ sudo userdel -rf kmuda002
kmuda002@karan-VirtualBox:~$ users
karan
```