



COGNIZANCE CLUB

PRELIMINARY

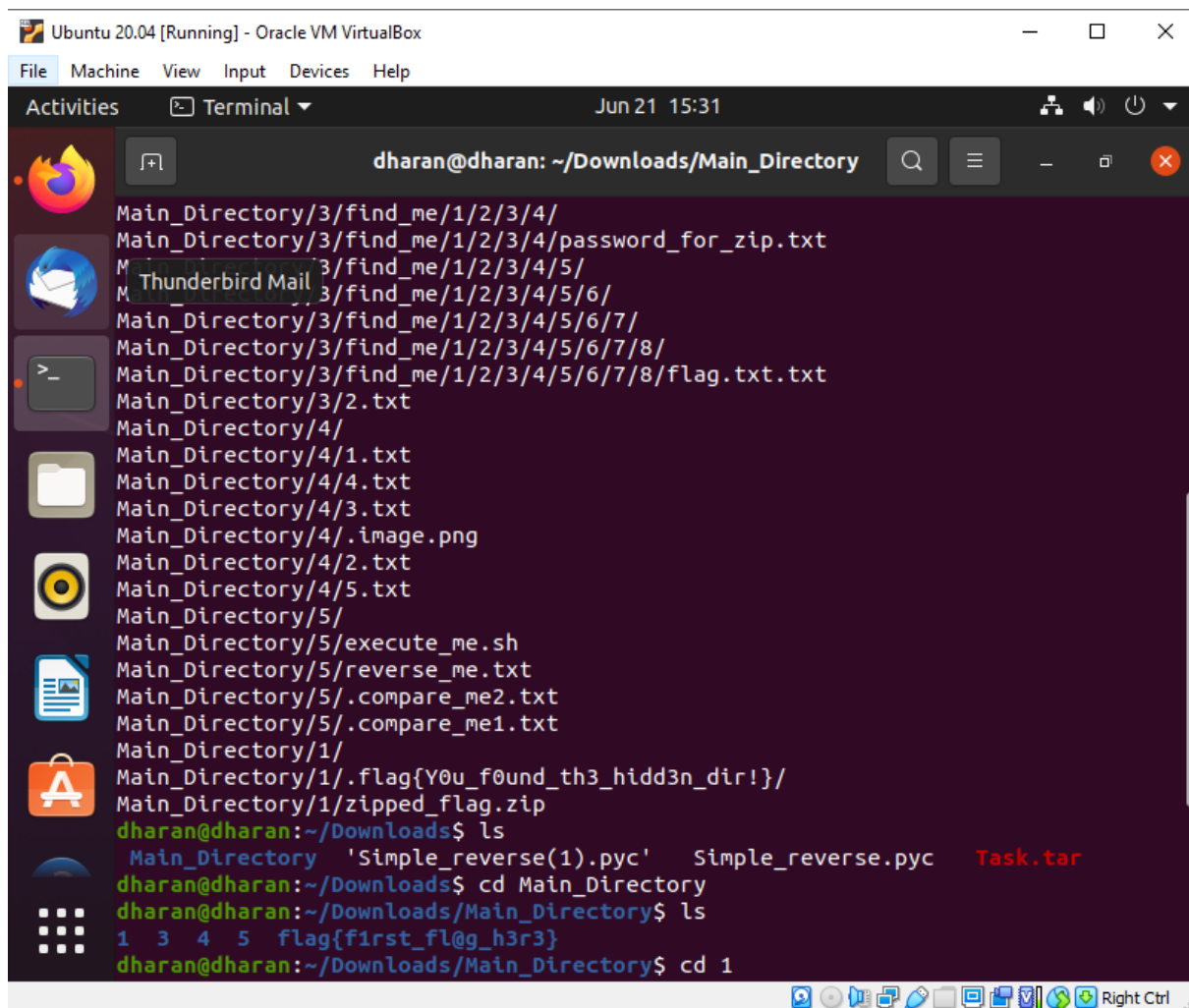
Name: Dharan Kumar

Roll No: CH.EN.U4CSE20019

Topic: Task-4 (CYS Basics)

Part 1

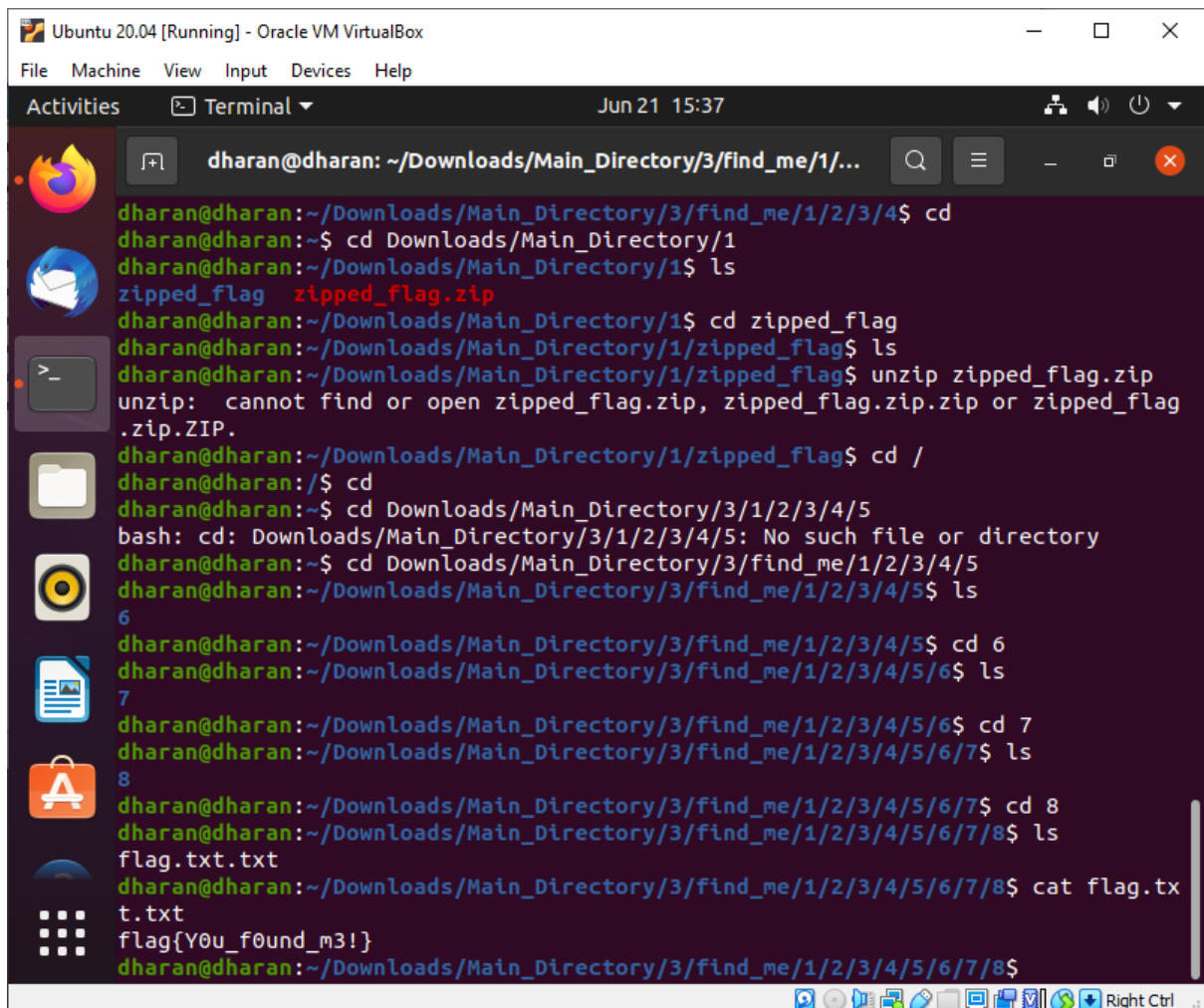
1) Flag1: flag{first_fl@g_h3r3}



The screenshot shows a terminal window titled "Ubuntu 20.04 [Running] - Oracle VM VirtualBox" with a menu bar (File, Machine, View, Input, Devices, Help) and a status bar (Jun 21 15:31). The terminal prompt is "dharan@dharan: ~/Downloads/Main_Directory". The user has navigated through a directory structure, listing files and directories. The final output shows the flag "1 3 4 5 flag{first_fl@g_h3r3}" in the directory "1".

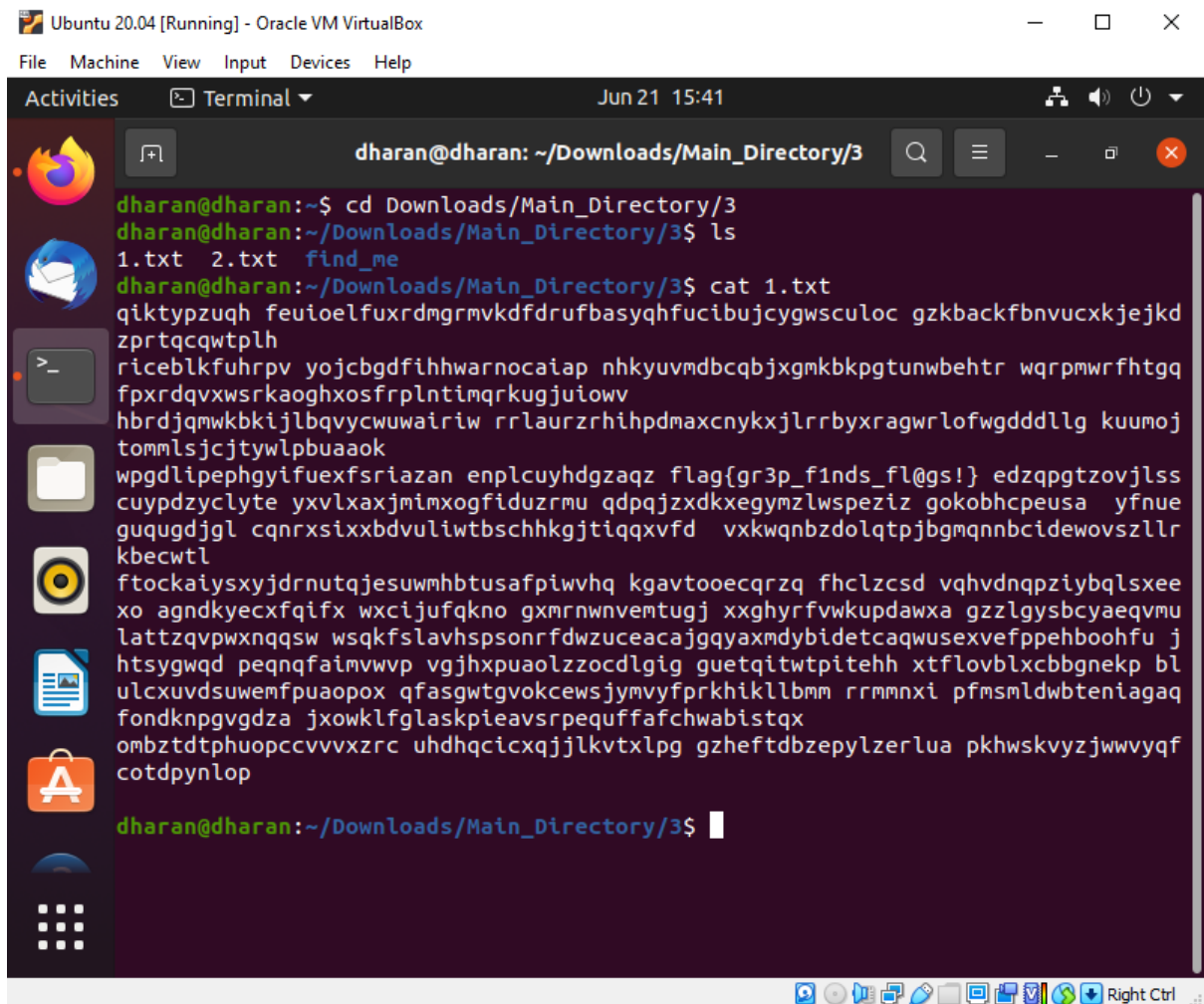
```
dharan@dharan: ~/Downloads/Main_Directory
Main_Directory/3/find_me/1/2/3/4/
Main_Directory/3/find_me/1/2/3/4/password_for_zip.txt
Main_Directory/3/find_me/1/2/3/4/5/
Main_Directory/3/find_me/1/2/3/4/5/6/
Main_Directory/3/find_me/1/2/3/4/5/6/7/
Main_Directory/3/find_me/1/2/3/4/5/6/7/8/
Main_Directory/3/find_me/1/2/3/4/5/6/7/8/flag.txt.txt
Main_Directory/3/2.txt
Main_Directory/4/
Main_Directory/4/1.txt
Main_Directory/4/4.txt
Main_Directory/4/3.txt
Main_Directory/4/.image.png
Main_Directory/4/2.txt
Main_Directory/4/5.txt
Main_Directory/5/
Main_Directory/5/execute_me.sh
Main_Directory/5/reverse_me.txt
Main_Directory/5/.compare_me2.txt
Main_Directory/5/.compare_me1.txt
Main_Directory/1/
Main_Directory/1/.flag{Y0u_f0und_th3_hidd3n_dir!}/
Main_Directory/1/zipped_flag.zip
dharan@dharan:~/Downloads$ ls
Main_Directory  'Simple_reverse(1).pyc'  Simple_reverse.pyc  Task.tar
dharan@dharan:~/Downloads$ cd Main_Directory
dharan@dharan:~/Downloads/Main_Directory$ ls
1 3 4 5 flag{first_fl@g_h3r3}
dharan@dharan:~/Downloads/Main_Directory$ cd 1
```

2) Flag 2: flag{Y0u_f0und_m3!}



```
Ubuntu 20.04 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Activities Terminal Jun 21 15:37
dharan@dharan: ~/Downloads/Main_Directory/3/find_me/1/...
dharan@dharan:~/Downloads/Main_Directory/3/find_me/1/2/3/4$ cd
dharan@dharan:~$ cd Downloads/Main_Directory/1
dharan@dharan:~/Downloads/Main_Directory/1$ ls
zipped_flag  zipped_flag.zip
dharan@dharan:~/Downloads/Main_Directory/1$ cd zipped_flag
dharan@dharan:~/Downloads/Main_Directory/1/zipped_flag$ ls
dharan@dharan:~/Downloads/Main_Directory/1/zipped_flag$ unzip zipped_flag.zip
unzip: cannot find or open zipped_flag.zip, zipped_flag.zip.zip or zipped_flag
.zip.ZIP.
dharan@dharan:~/Downloads/Main_Directory/1/zipped_flag$ cd /
dharan@dharan:/$ cd
dharan@dharan:~$ cd Downloads/Main_Directory/3/1/2/3/4/5
bash: cd: Downloads/Main_Directory/3/1/2/3/4/5: No such file or directory
dharan@dharan:~$ cd Downloads/Main_Directory/3/find_me/1/2/3/4/5
dharan@dharan:~/Downloads/Main_Directory/3/find_me/1/2/3/4/5$ ls
6
dharan@dharan:~/Downloads/Main_Directory/3/find_me/1/2/3/4/5$ cd 6
dharan@dharan:~/Downloads/Main_Directory/3/find_me/1/2/3/4/5/6$ ls
7
dharan@dharan:~/Downloads/Main_Directory/3/find_me/1/2/3/4/5/6$ cd 7
dharan@dharan:~/Downloads/Main_Directory/3/find_me/1/2/3/4/5/6/7$ ls
8
dharan@dharan:~/Downloads/Main_Directory/3/find_me/1/2/3/4/5/6/7$ cd 8
dharan@dharan:~/Downloads/Main_Directory/3/find_me/1/2/3/4/5/6/7/8$ ls
flag.txt.txt
dharan@dharan:~/Downloads/Main_Directory/3/find_me/1/2/3/4/5/6/7/8$ cat flag.tx
t.txt
flag{Y0u_f0und_m3!}
dharan@dharan:~/Downloads/Main_Directory/3/find_me/1/2/3/4/5/6/7/8$
```

3) Flag 3: flag{gr3p_f1nds_fl@gs!}

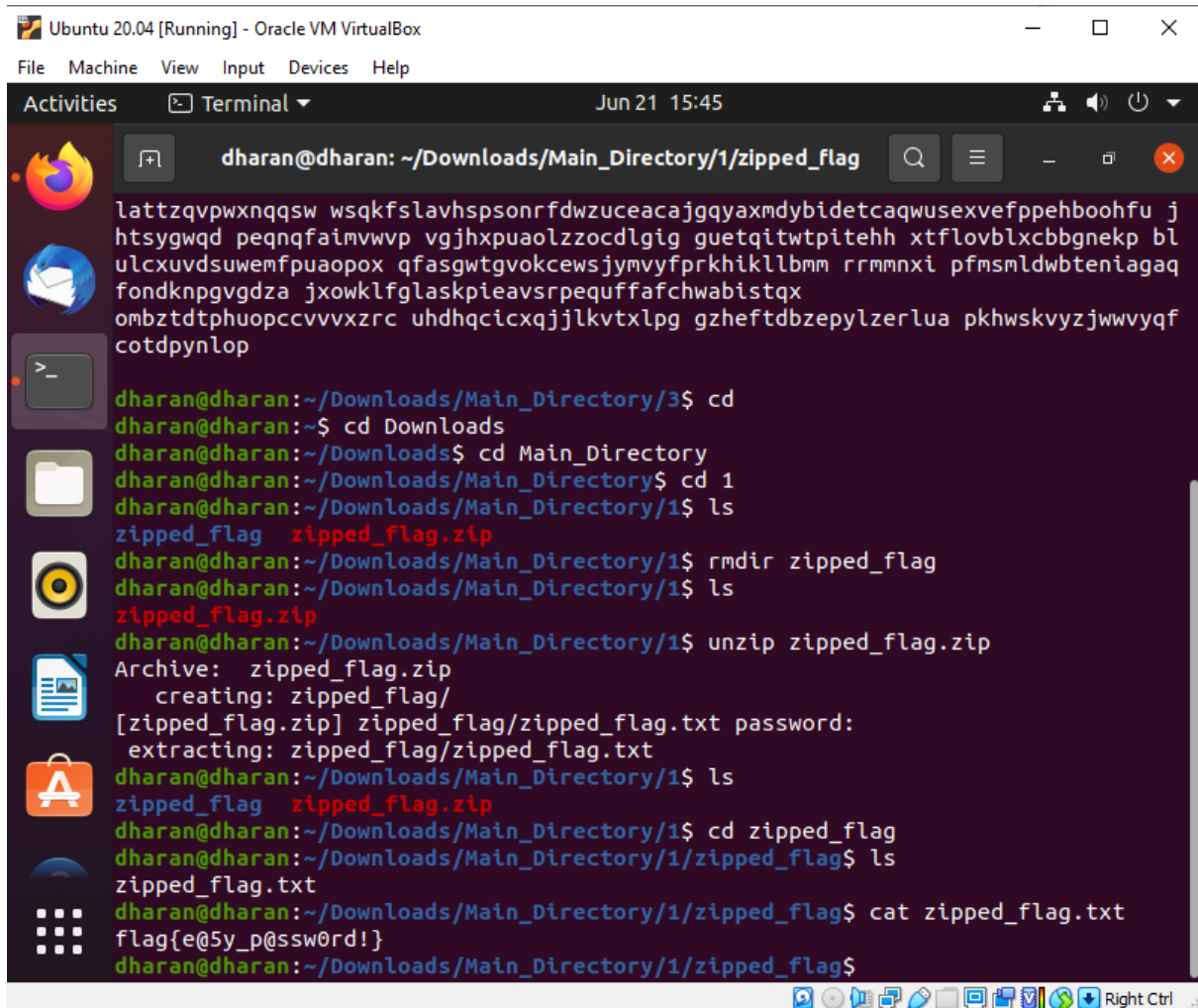


The screenshot shows a terminal window titled "Ubuntu 20.04 [Running] - Oracle VM VirtualBox". The terminal is running a series of commands to find a flag in a file named "1.txt". The commands and their outputs are as follows:

```
dhara@dhara: ~/Downloads/Main_Directory/3
dhara@dhara:~$ cd Downloads/Main_Directory/3
dhara@dhara:~/Downloads/Main_Directory/3$ ls
1.txt 2.txt find_me
dhara@dhara:~/Downloads/Main_Directory/3$ cat 1.txt
qiktypzquh feuiouelfuxrdnrmvkdfrufbasyqhfucibujcygwsculoc gzckbackfbnvucxkjejd
zprtqcqwtplh
riceblkfuhpv yojcbgdfihhwarnocaiap nhkyuvmdbcbjxgmkbkpgtunwbeht wqrpnmwrfhtgq
fpxrdqvxwsrkaoghxosfrplntimqrkugjuiov
hbrdjmqwbkijlbqvywuwairw rrlaurzrhthpdmxcnykxjlrrbyxragwrlfwgdddlg kuumoj
tommlsjcjtywlpbuaaok
wpgdliphephyifuexfsriazan enplcuyhdgzaqz flag{gr3p_f1nds_fl@gs!} edzqpgtzovjlss
cuydpdzyclyte yxvlxaxjminxogfiduzrmu qdpqjzdxkxegymzlspeziz gokobhceusa yfnue
guqugdjgl cqnrxsxxbdvuliwtbschhkgjtiqqxvfd vxkwqnbzdolqtpjbgmqnnbcidewovszllr
kbecwtl
ftockaiysxyjdrnutqjesuwmhbtusafpiwvhq kgavtooeqrzq fhclzcsd vqhvdnqpziybqlsxee
xo agndkyecxfqifx wxcijufqkno gxmrnwnventugj xxghyrfvwkupdawxa gzzlgysbcyaevmu
lattzqvpwxnqqsw wsqkflavhspsonrfdwzuceacajgqyaxmdybidetcaqwusexvefppehboohfu j
htsygwqd peqnqfaimvwvp vgjhxpuolzocdlgig guetqitwtpitehh xtflovblxcbbgnekp bl
ulcxuudsuwemfpuapox qfasgtgvokcewsjymvyfprkhikllbmm rrmnxi pfmsmldwbteniagaaq
fondknpvgvdza jxowklfglaskpieavsrpequffafchwabistqx
ombztdtphuopccvxxzrc uhdhqcicxqjjlkvtxlpq gzheftdbzepylzerlua pkhwskvzyzjwwvyqf
cotdpylop
dhara@dhara:~/Downloads/Main_Directory/3$
```

The flag is found in the file "1.txt" and is: flag{gr3p_f1nds_fl@gs!}

4) Flag 4: `flag{e@5y_p@ssw0rd!}`

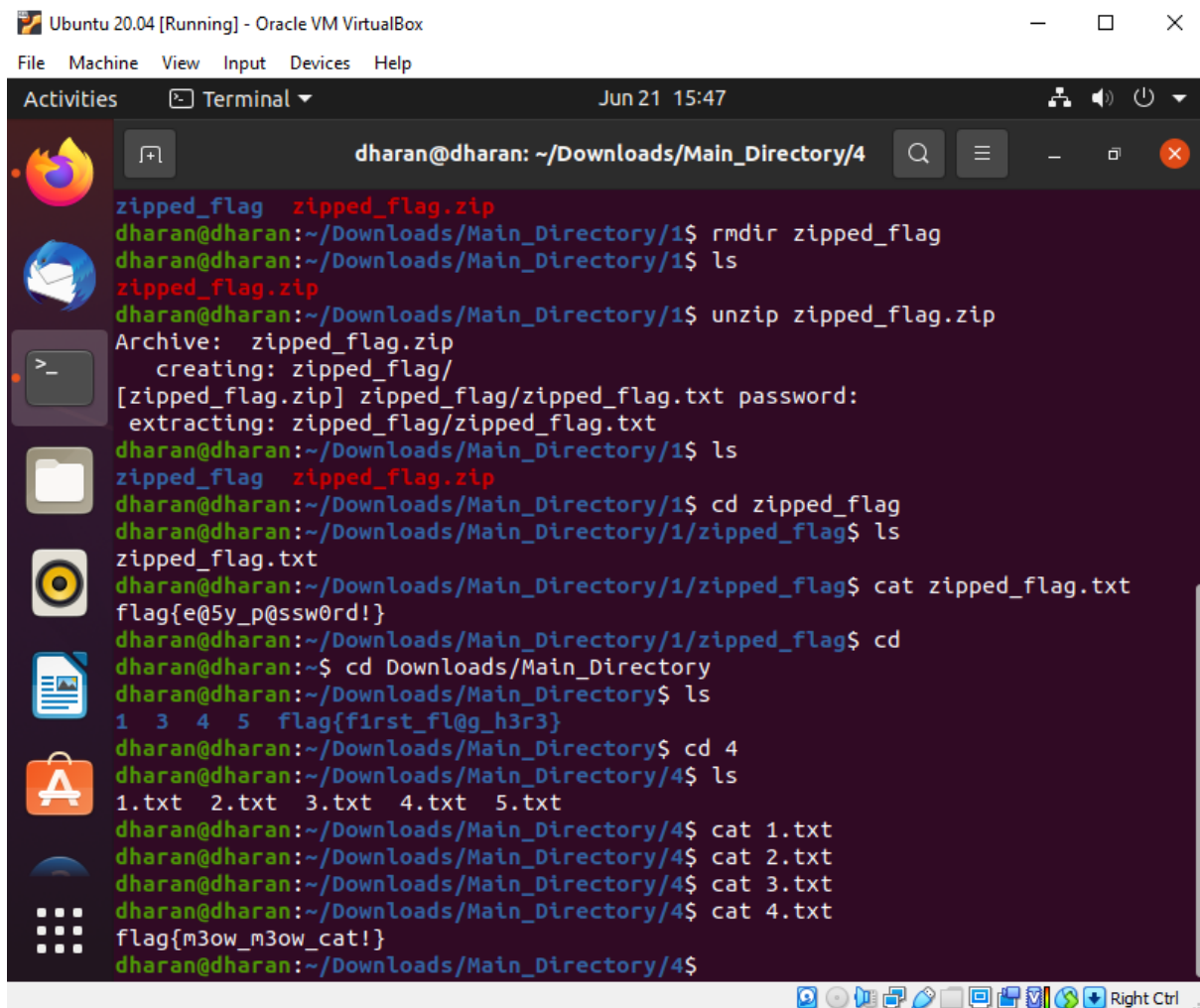


The screenshot shows a terminal window titled "Ubuntu 20.04 [Running] - Oracle VM VirtualBox". The terminal output is as follows:

```
lattzqvpwnqqsw wsqkflavhspsonrfdwzuceacajggyaxmdybidetcaqwusexvefppehboohfu j
htsygwqd peqnqfaimvwvp vgjhxpuazolzzocdlgig guetqitwtpitehh xtflovblxcbbgnekp bl
ulcxuvdsuwemfpuaopox qfasgwtgvokcewsjymvyfprkhikllbmm rmmnxi pfmslwdwbteniagag
fondknpvgvdza jxowklfglaskpieavsrpequffafchwabistqx
ombztdtphuoopccvxxzrc uhdhqcicxqjjlkvtxlpq gzheftdbzepylerlua pkhwskvzyjwwvyqf
cotdpynlop

dharan@dharan:~/Downloads/Main_Directory/3$ cd
dharan@dharan:~$ cd Downloads
dharan@dharan:~/Downloads$ cd Main_Directory
dharan@dharan:~/Downloads/Main_Directory$ cd 1
dharan@dharan:~/Downloads/Main_Directory/1$ ls
zipped_flag  zipped_flag.zip
dharan@dharan:~/Downloads/Main_Directory/1$ rmdir zipped_flag
dharan@dharan:~/Downloads/Main_Directory/1$ ls
zipped_flag.zip
dharan@dharan:~/Downloads/Main_Directory/1$ unzip zipped_flag.zip
Archive:  zipped_flag.zip
  creating: zipped_flag/
[zipped_flag.zip] zipped_flag/zipped_flag.txt password:
extracting: zipped_flag/zipped_flag.txt
dharan@dharan:~/Downloads/Main_Directory/1$ ls
zipped_flag  zipped_flag.zip
dharan@dharan:~/Downloads/Main_Directory/1$ cd zipped_flag
dharan@dharan:~/Downloads/Main_Directory/1/zipped_flag$ ls
zipped_flag.txt
dharan@dharan:~/Downloads/Main_Directory/1/zipped_flag$ cat zipped_flag.txt
flag{e@5y_p@ssw0rd!}
dharan@dharan:~/Downloads/Main_Directory/1/zipped_flag$
```

5) Flag 5: flag{m3ow_m3ow_cat!}



The screenshot shows a terminal window titled "Ubuntu 20.04 [Running] - Oracle VM VirtualBox". The user is logged in as "dharan" and is in the directory "~/Downloads/Main_Directory/4". The terminal output shows the following commands and results:

```
dharan@dharan: ~/Downloads/Main_Directory/4
zipped_flag zipped_flag.zip
dharan@dharan:~/Downloads/Main_Directory/1$ rmdir zipped_flag
dharan@dharan:~/Downloads/Main_Directory/1$ ls
zipped_flag.zip
dharan@dharan:~/Downloads/Main_Directory/1$ unzip zipped_flag.zip
Archive: zipped_flag.zip
creating: zipped_flag/
[zipped_flag.zip] zipped_flag/zipped_flag.txt password:
extracting: zipped_flag/zipped_flag.txt
dharan@dharan:~/Downloads/Main_Directory/1$ ls
zipped_flag zipped_flag.zip
dharan@dharan:~/Downloads/Main_Directory/1$ cd zipped_flag
dharan@dharan:~/Downloads/Main_Directory/1/zipped_flag$ ls
zipped_flag.txt
dharan@dharan:~/Downloads/Main_Directory/1/zipped_flag$ cat zipped_flag.txt
flag{e@5y_p@ssw0rd!}
dharan@dharan:~/Downloads/Main_Directory/1/zipped_flag$ cd
dharan@dharan:~$ cd Downloads/Main_Directory
dharan@dharan:~/Downloads/Main_Directory$ ls
1 3 4 5 flag{first_fl@g_h3r3}
dharan@dharan:~/Downloads/Main_Directory$ cd 4
dharan@dharan:~/Downloads/Main_Directory/4$ ls
1.txt 2.txt 3.txt 4.txt 5.txt
dharan@dharan:~/Downloads/Main_Directory/4$ cat 1.txt
dharan@dharan:~/Downloads/Main_Directory/4$ cat 2.txt
dharan@dharan:~/Downloads/Main_Directory/4$ cat 3.txt
dharan@dharan:~/Downloads/Main_Directory/4$ cat 4.txt
flag{m3ow_m3ow_cat!}
dharan@dharan:~/Downloads/Main_Directory/4$
```

The terminal window has a sidebar with icons for Activities, Terminal, and other applications. The top bar shows the date and time as "Jun 21 15:47". The bottom bar shows system icons and a "Right Ctrl" button.

6) Flag 6: flag{3x3cut10n_d0n3!}

Ubuntu 20.04 [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

```
Activities Terminal Jun 21 15:49
dharan@dharan: ~/Downloads/Main_Directory/5

dharan@dharan:~/Downloads/Main_Directory/1$ ls
zipped_flag  zipped_flag.zip
dharan@dharan:~/Downloads/Main_Directory/1$ cd zipped_flag
dharan@dharan:~/Downloads/Main_Directory/1/zipped_flag$ ls
zipped_flag.txt
dharan@dharan:~/Downloads/Main_Directory/1/zipped_flag$ cat zipped_flag.txt
flag{e@5y_p@ssw0rd!}
dharan@dharan:~/Downloads/Main_Directory/1/zipped_flag$ cd
dharan@dharan:~$ cd Downloads/Main_Directory
dharan@dharan:~/Downloads/Main_Directory$ ls
1 3 4 5 flag{first_fl@g_h3r3}
dharan@dharan:~/Downloads/Main_Directory$ cd 4
dharan@dharan:~/Downloads/Main_Directory/4$ ls
1.txt 2.txt 3.txt 4.txt 5.txt
dharan@dharan:~/Downloads/Main_Directory/4$ cat 1.txt
dharan@dharan:~/Downloads/Main_Directory/4$ cat 2.txt
dharan@dharan:~/Downloads/Main_Directory/4$ cat 3.txt
dharan@dharan:~/Downloads/Main_Directory/4$ cat 4.txt
flag{m3ow_m3ow_cat!}
dharan@dharan:~/Downloads/Main_Directory/4$ cd
dharan@dharan:~$ cd Downloads/Main_Directory
dharan@dharan:~/Downloads/Main_Directory$ ls
1 3 4 5 flag{first_fl@g_h3r3}
dharan@dharan:~/Downloads/Main_Directory$ cd 5
dharan@dharan:~/Downloads/Main_Directory/5$ ls
execute_me.sh reverse_me.txt
dharan@dharan:~/Downloads/Main_Directory/5$ bash execute_me.sh
flag{3x3cut10n_d0n3!}
dharan@dharan:~/Downloads/Main_Directory/5$
```

7) Flag 7: `flag{t@c_15_fun!}`

Ubuntu 20.04 [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Activities Terminal Jun 21 15:52

Thunar dharan@dharan: ~/Downloads/Main_Directory/5

```
1
-
c
@
t
{
g
a
l
f
dharan@dharan:~/Downloads/Main_Directory/5$ tac reverse_me.txt
f
l
a
g
{
t
@
c
_
1
5
_
f
u
n
!
}
dharan@dharan:~/Downloads/Main_Directory/5$
```

Thunderbird Mail

Right Ctrl

8) Flag 8: `flag{Y0u_f0und_th3_hidd3n_dir!}`

Ubuntu 20.04 [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Activities Terminal Jun 21 15:54

```
dharan@dharan: ~/Downloads/Main_Directory/1
```

t
{
g
a
l
f
f
l
a
g
{
t
@
c
-
1
5
-
f
u
n
!
}

```
dharan@dharan:~/Downloads/Main_Directory/5$ tac reverse_me.txt
```

```
dharan@dharan:~/Downloads/Main_Directory/5$ cd
```

```
dharan@dharan:~$ cd Downloads/Main_Directory/1
```

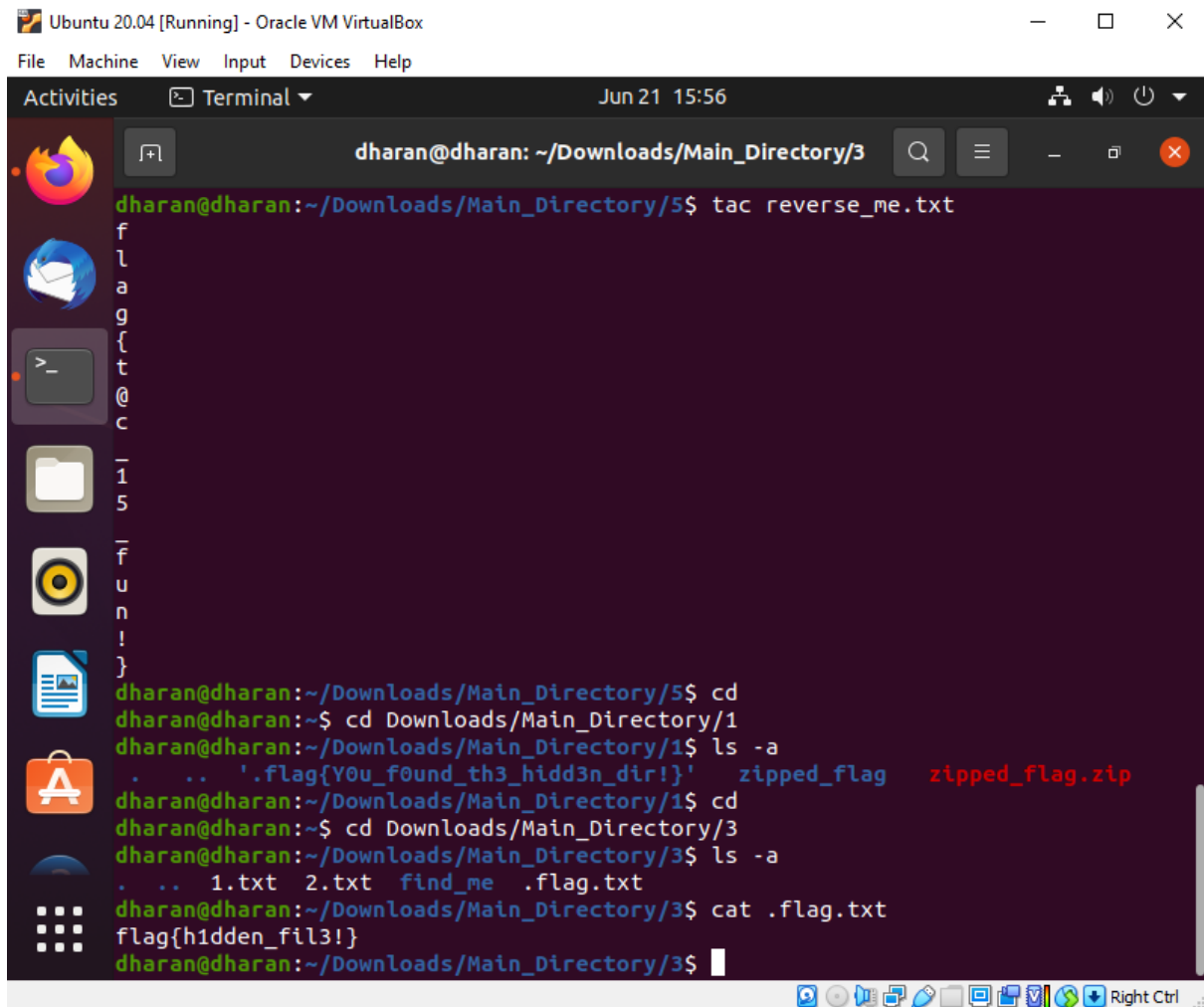
```
dharan@dharan:~/Downloads/Main_Directory/1$ ls -a
```

```
.. .. '.flag{Y0u_f0und_th3_hidd3n_dir!}' zipped_flag zipped_flag.zip
```

```
dharan@dharan:~/Downloads/Main_Directory/1$
```

Right Ctrl

9) Flag 9: flag{h1dden_fil3!}



The screenshot shows a terminal window titled "Ubuntu 20.04 [Running] - Oracle VM VirtualBox". The user is logged in as "dharan" and is in the directory "~/Downloads/Main_Directory/3". The terminal shows the following commands and output:

```
dharan@dharan: ~/Downloads/Main_Directory/3
dharan@dharan:~/Downloads/Main_Directory/5$ tac reverse_me.txt
f
l
a
g
{
t
@
c
-
1
5
-
f
u
n
!
}
dharan@dharan:~/Downloads/Main_Directory/5$ cd
dharan@dharan:~$ cd Downloads/Main_Directory/1
dharan@dharan:~/Downloads/Main_Directory/1$ ls -a
.  ..  '.flag{Y0u_f0und_th3_hidd3n_dir!}'  zipped_flag  zipped_flag.zip
dharan@dharan:~/Downloads/Main_Directory/1$ cd
dharan@dharan:~$ cd Downloads/Main_Directory/3
dharan@dharan:~/Downloads/Main_Directory/3$ ls -a
.  ..  1.txt  2.txt  find_me  .flag.txt
dharan@dharan:~/Downloads/Main_Directory/3$ cat .flag.txt
flag{h1dden_fil3!}
dharan@dharan:~/Downloads/Main_Directory/3$
```

The terminal window has a sidebar on the left with icons for various applications. The top bar shows the date and time as "Jun 21 15:56". The bottom bar shows system icons and a "Right Ctrl" button.

10) Flag 10: flag{t3xt_15_n0t_h1dd3n!}

Ubuntu 20.04 [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Activities Jun 21 15:58

dhara@dhara: ~/Downloads/Main_Directory/4

```
@c
-15
-fun!
}
dhara@dhara:~/Downloads/Main_Directory/5$ cd
dhara@dhara:~$ cd Downloads/Main_Directory/1
dhara@dhara:~/Downloads/Main_Directory/1$ ls -a
.  ..  '.flag{Y0u_f0und_th3_hidd3n_dir!}'  zipped_flag  zipped_flag.zip
dhara@dhara:~/Downloads/Main_Directory/1$ cd
dhara@dhara:~$ cd Downloads/Main_Directory/3
dhara@dhara:~/Downloads/Main_Directory/3$ ls -a
.  ..  1.txt  2.txt  find_me  .flag.txt
dhara@dhara:~/Downloads/Main_Directory/3$ cat .flag.txt
flag{h1dden_fil3!}
dhara@dhara:~/Downloads/Main_Directory/3$ cd
dhara@dhara:~$ cd Downloads/Main_Directory/4
dhara@dhara:~/Downloads/Main_Directory/4$ ls -a
.  ..  1.txt  2.txt  3.txt  4.txt  5.txt  .image.png
dhara@dhara:~/Downloads/Main_Directory/4$ cat 5.txt
dhara@dhara:~/Downloads/Main_Directory/4$ grep flag .image.png
flag{t3xt_15_n0t_h1dd3n!}
dhara@dhara:~/Downloads/Main_Directory/4$
```

Right Ctrl

11) Flag 11: flag{d1ff_15_u53ful!}

Ubuntu 20.04 [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Activities Terminal Jun 21 16:06

```
dharan@dhara: ~/Downloads/Main_Directory/5
Z
Z
Z
Z
Z
Z
!
}
dharan@dhara:~/Downloads/Main_Directory/5$ diff .compare1.txt .compare2.txt
diff: .compare1.txt: No such file or directory
diff: .compare2.txt: No such file or directory
dharan@dhara:~/Downloads/Main_Directory/5$ diff .compare_me1.txt .compare_me2.
txt
83c83
< f
---
> z
173c173
< l
---
> z
340c340
< a
---
> z
431c431
< g
---
> z
```

Ubuntu 20.04 [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Activities Terminal Jun 21 16:07

```
dharan@dhara: ~/Downloads/Main_Directory/5
> z
431c431
< g
---
> z
585c585
< {
---
> z
601d600
< d
665c664,665
< 1
---
> z
769c769
< f
---
> z
876c876
< f
---
> z
938c938
< -
---
> z
1398a1399
```

```

Activities Jun 21 16:07
dharan@dharan: ~/Downloads/Main_Directory/5
938c938
< _
---
> Z
1398a1399
> Z
1403d1403
< 1
1473c1473,1474
< 5
---
> Z
> Z
1500d1500
< _
1577c1577,1578
< U
---
> Z
> Z
1613d1613
< 5
1679c1679,1680
< 3
---
> Z
> Z
1727d1727
< f

```

```

Activities Jun 21 16:07
dharan@dharan: ~/Downloads/Main_Directory/5
1577c1577,1578
< U
---
> Z
> Z
1613d1613
< 5
1679c1679,1680
< 3
---
> Z
> Z
1727d1727
< f
1779c1779,1780
< U
---
> Z
> Z
1823d1823
< l
1897,1898c1897,1899
< !
< }
---
> Z
> Z
> Z
dharan@dharan:~/Downloads/Main_Directory/5$

```

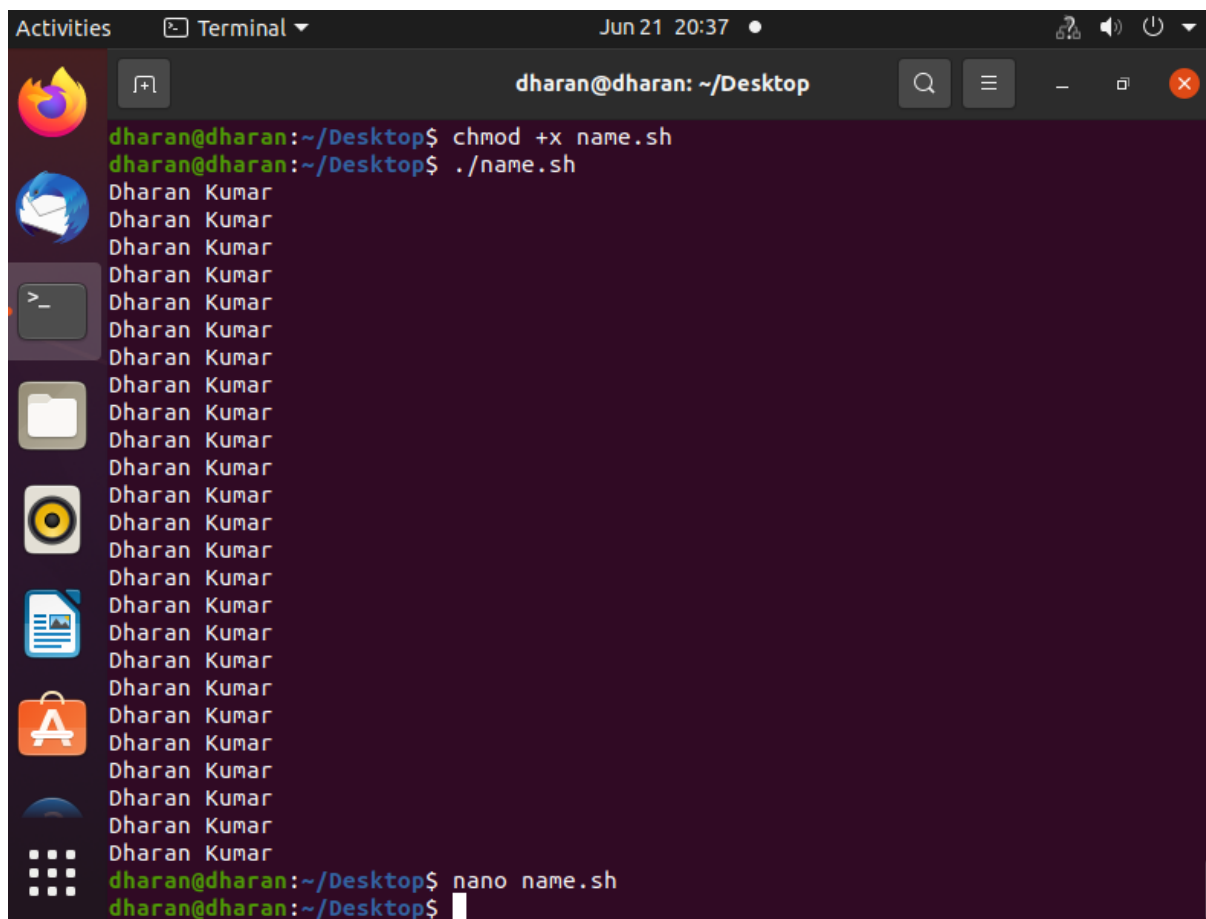
Part 2:

- Write a bash script to echo your name 25 times

Code:

```
valid=True
count=1
while [ $valid ]
do
echo "Dharan Kumar"
if [ $count -eq 25 ];
then break
fi
((count++))
done
```

Output:

A screenshot of a Linux terminal window. The window title is "Terminal" and the current directory is "~/Desktop". The user "dharan" is logged in. The terminal shows the following commands and output:
1. Command: `chmod +x name.sh`
2. Command: `./name.sh`
3. Output: 25 lines of "Dharan Kumar" printed vertically.
4. Command: `nano name.sh`
The terminal window has a sidebar with various application icons (Firefox, Mail, Files, Music, Videos, etc.) and a top bar showing the date and time as "Jun 21 20:37".

- What command should I use to display the **first** 30 entries of syslog file?

```
dharan@dharan:~$ head -n 30 /var/log/syslog
Jun 21 15:05:54 dharan rsyslogd: [origin software="rsyslogd" swVersion="8.2001.0" x-pid="633" x-info="https://www.rsyslog.com"] rsyslogd was HUPed
Jun 21 15:05:55 dharan networkd-dispatcher[767]: WARNING: systemd-networkd is not running, output will be incomplete.
Jun 21 15:05:55 dharan systemd[1]: Started GNOME Display Manager.
Jun 21 15:05:55 dharan systemd[1]: Started Dispatcher daemon for systemd-networkd.
Jun 21 15:05:55 dharan ModemManager[751]: <info> ModemManager (version 1.12.8) starting in system bus...
Jun 21 15:05:55 dharan systemd[1]: Received SIGRTMIN+21 from PID 313 (plymouthd).
Jun 21 15:05:55 dharan systemd[1]: logrotate.service: Succeeded.
Jun 21 15:05:55 dharan systemd[1]: Finished Rotate log files.
Jun 21 15:05:55 dharan systemd[1]: Started Modem Manager.
Jun 21 15:05:55 dharan systemd[1]: Started Disk Manager.
Jun 21 15:05:55 dharan udisksd[644]: Acquired the name org.freedesktop.UDisks2 on the system message bus
Jun 21 15:05:56 dharan systemd[1]: Created slice User Slice of UID 1000.
Jun 21 15:05:56 dharan systemd[1]: Starting User Runtime Directory /run/user/1000...
Jun 21 15:05:56 dharan systemd[1]: Finished User Runtime Directory /run/user/1000.
Jun 21 15:05:56 dharan systemd[1]: Starting User Manager for UID 1000...
Jun 21 15:05:56 dharan dbus-daemon[611]: [system] Successfully activated service 'org.freedesktop.hostname1'
Jun 21 15:05:56 dharan systemd[1]: Started Hostname Service.
Jun 21 15:05:56 dharan NetworkManager[612]: <info> [1655804156.6283] hostname:
```

```
Jun 21 15:05:56 dharan NetworkManager[612]: <info> [1655804156.6283] hostname: hostname changed from (none) to "dharan"
Jun 21 15:05:56 dharan NetworkManager[612]: <info> [1655804156.6286] dns-mgr[0x563ca108c290]: init: dns=systemd-resolved rc-manager=symlink, plugin=systemd-resolved
Jun 21 15:05:56 dharan NetworkManager[612]: <info> [1655804156.6425] manager[0x563ca10a5030]: rfkill: Wi-Fi hardware radio set enabled
Jun 21 15:05:56 dharan NetworkManager[612]: <info> [1655804156.6565] manager[0x563ca10a5030]: rfkill: WWAN hardware radio set enabled
Jun 21 15:05:56 dharan NetworkManager[612]: <info> [1655804156.7242] Loaded device plugin: NMWwanFactory (/usr/lib/x86_64-linux-gnu/NetworkManager/1.22.10/libnm-device-plugin-wwan.so)
Jun 21 15:05:56 dharan NetworkManager[612]: <info> [1655804156.7641] Loaded device plugin: NMBluetoothManager (/usr/lib/x86_64-linux-gnu/NetworkManager/1.22.10/libnm-device-plugin-bluetooth.so)
Jun 21 15:05:56 dharan NetworkManager[612]: <info> [1655804156.7706] Loaded device plugin: NMWifiFactory (/usr/lib/x86_64-linux-gnu/NetworkManager/1.22.10/libnm-device-plugin-wifi.so)
Jun 21 15:05:56 dharan NetworkManager[612]: <info> [1655804156.7878] Loaded device plugin: NMAtmManager (/usr/lib/x86_64-linux-gnu/NetworkManager/1.22.10/libnm-device-plugin-adsl.so)
Jun 21 15:05:56 dharan NetworkManager[612]: <info> [1655804156.8364] Loaded device plugin: NMTeamFactory (/usr/lib/x86_64-linux-gnu/NetworkManager/1.22.10/libnm-device-plugin-team.so)
Jun 21 15:05:56 dharan NetworkManager[612]: <info> [1655804156.8379] manager: rfkill: Wi-Fi enabled by radio killswitch; enabled by state file
```



```
Jun 21 15:05:56 dharan NetworkManager[612]: <info> [1655804156.8431] manager:
rfkill: WWAN enabled by radio killswitch; enabled by state file
Jun 21 15:05:56 dharan NetworkManager[612]: <info> [1655804156.8458] manager:
Networking is enabled by state file
```

- What command should I use to display the **last** 30 entries of syslog file?

```
dharan@dharan:~$ tail -n 30 /var/log/syslog
Jun 21 19:38:39 dharan systemd[1]: Started Time & Date Service.
Jun 21 19:38:40 dharan snapd[602]: storehelpers.go:722: cannot refresh: snap ha
s no updates available: "bare", "core18", "core20", "gnome-3-34-1804", "gnome-3
-38-2004", "gtk-common-themes", "snap-store", "snapd"
Jun 21 19:38:40 dharan snapd[602]: autorefresh.go:539: auto-refresh: all snaps
are up-to-date
Jun 21 19:38:47 dharan NetworkManager[578]: <info> [1655820527.0238] manager:
NetworkManager state is now CONNECTED_SITE
Jun 21 19:38:47 dharan whoopsie[730]: [19:38:47] offline
Jun 21 19:38:47 dharan dbus-daemon[577]: [system] Activating via systemd: servi
ce name='org.freedesktop.nm_dispatcher' unit='dbus-org.freedesktop.nm-dispatche
r.service' requested by ':1.10' (uid=0 pid=578 comm="/usr/sbin/NetworkManager -
-no-daemon " label="unconfined")
Jun 21 19:38:47 dharan systemd[1]: Starting Network Manager Script Dispatcher S
ervice...
Jun 21 19:38:47 dharan dbus-daemon[577]: [system] Successfully activated servic
e 'org.freedesktop.nm_dispatcher'
Jun 21 19:38:47 dharan systemd[1]: Started Network Manager Script Dispatcher Se
rvice.
Jun 21 19:38:54 dharan NetworkManager[578]: <info> [1655820534.8685] manager:
NetworkManager state is now CONNECTED_GLOBAL
Jun 21 19:38:54 dharan whoopsie[730]: [19:38:54] The default IPv4 route is: /or
g/freedesktop/NetworkManager/ActiveConnection/1
Jun 21 19:38:54 dharan whoopsie[730]: [19:38:54] Not a paid data plan: /org/fre
edesktop/NetworkManager/ActiveConnection/1
Jun 21 19:38:54 dharan whoopsie[730]: [19:38:54] Found usable connection: /org/
freedesktop/NetworkManager/ActiveConnection/1
Jun 21 19:38:56 dharan whoopsie[730]: [19:38:56] online
```

```
Jun 21 19:39:05 dharan systemd[1]: NetworkManager-dispatcher.service: Succeeded
.
Jun 21 19:39:09 dharan systemd[1]: systemd-timedated.service: Succeeded.
Jun 21 19:39:23 dharan systemd[714]: vite-spawn-afe1860b-d416-4424-acd7-1067b1d5
fb05.scope: Succeeded.
Jun 21 19:39:23 dharan systemd[714]: gnome-terminal-server.service: Succeeded.
Jun 21 19:40:27 dharan systemd[714]: Started Application launched by gnome-shel
l.
Jun 21 19:40:28 dharan dbus-daemon[790]: [session uid=1000 pid=790] Activating
via systemd: service name='org.gnome.Terminal' unit='gnome-terminal-server.serv
ice' requested by ':1.116' (uid=1000 pid=2308 comm="/usr/bin/gnome-terminal.rea
l --window " label="unconfined")
Jun 21 19:40:28 dharan systemd[714]: Starting GNOME Terminal Server...
Jun 21 19:40:30 dharan dbus-daemon[790]: [session uid=1000 pid=790] Successfull
y activated service 'org.gnome.Terminal'
Jun 21 19:40:30 dharan systemd[714]: Started GNOME Terminal Server.
Jun 21 19:40:30 dharan systemd[714]: Started VTE child process 2319 launched by
gnome-terminal-server process 2311.
Jun 21 19:40:30 dharan systemd[714]: gnome-launched-org.gnome.Terminal.desktop-
2304.scope: Succeeded.
Jun 21 19:40:55 dharan PackageKit: daemon quit
Jun 21 19:40:55 dharan systemd[1]: packagekit.service: Succeeded.
Jun 21 19:48:34 dharan systemd[1]: Starting Cleanup of Temporary Directories...
Jun 21 19:48:34 dharan systemd[1]: systemd-tmpfiles-clean.service: Succeeded.
Jun 21 19:48:34 dharan systemd[1]: Finished Cleanup of Temporary Directories.
```


- What command should I use to arrange the entries of a file
 - o Alphabetically

```
dhara@dhara:~/Desktop$ cat >alpha.txt
```

```
d  
e  
s  
f  
c  
d  
w  
y  
t  
q  
a  
d  
f
```

```
dhara@dhara:~/Desktop$ cat alpha.txt | sort -k 2
```

```
a  
c  
d  
d  
d  
e  
f  
f  
q  
s  
t  
w  
y
```

- Reverse order

```
dhara@dhara:~/Desktop$ cat alpha.txt
```

```
d  
e  
s  
f  
c  
d  
w  
y  
t  
q  
a  
d  
f
```

```
dhara@dhara:~/Desktop$ tac alpha.txt
```

```
f  
d  
a  
q  
t  
y  
w  
d  
c  
f  
s  
e  
d
```

- Numerical order

```
dharan@dharan:~/Desktop$ cat >numeric.txt
672
35764
23
1
23
443
2342
43
234
233
215
543
dharan@dharan:~/Desktop$ sort -n numeric.txt
1
23
23
43
215
233
234
443
543
672
2342
35764
```

- Copee is a hard-working cop. He found a case and almost at the verge of cracking it. It could be his best breakthrough. He has the list of criminals but lots of duplicates are there. He needs to find the only one that is **different**. He sought your help. How will you sort this issue?

```
dharan@dharan:~/Desktop$ cat alpha.txt
d
e
s
f
c
d
w
y
t
q
a
d
f
```

```
dhara@dhara:~/Desktop$ sort alpha.txt | uniq -u
a
c
e
q
s
t
w
y
```

- What are the Three parts of file's permission?

Access to a file has three levels:

- **Read permission** - If authorized, the user can read the contents of the file.
- **Write permission** - If authorized, the user can modify the file.
- **Execute permission** - If authorized, the user can execute the file as a program.

Finally, there are three sets of access permissions associated with each file:

- **User permission** - Specifies the level of access given to the user matching the file's UID.
- **Group permission** - Specifies the level of access given to users in groups matching the file's GID.
- **Others permission** - Specifies the level of access given to users without a matching UID or GID.