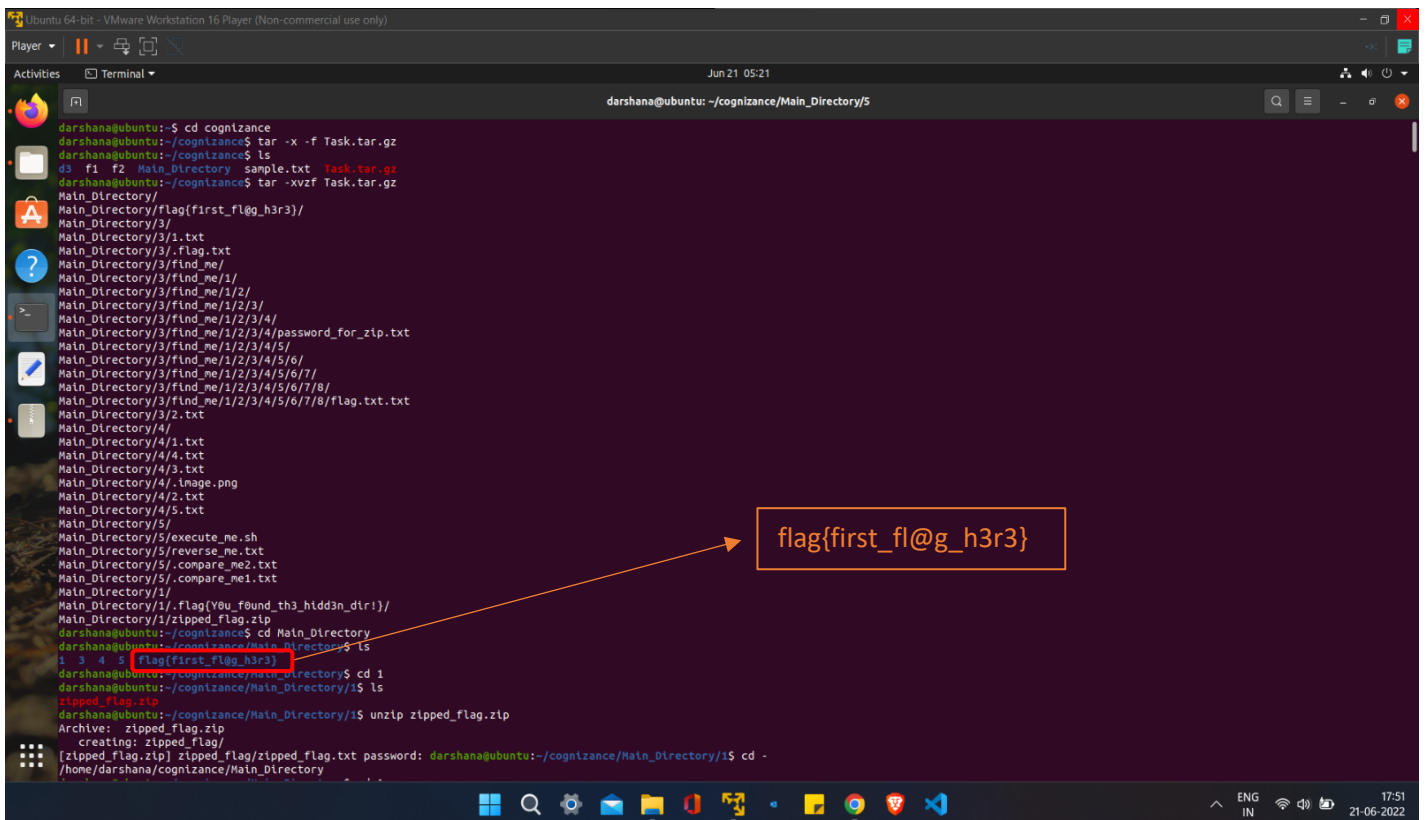


## TASK-4 [CYS BASICS]

# BASH SCRIPTING, CYS, LINUX FUNDAMENTALS

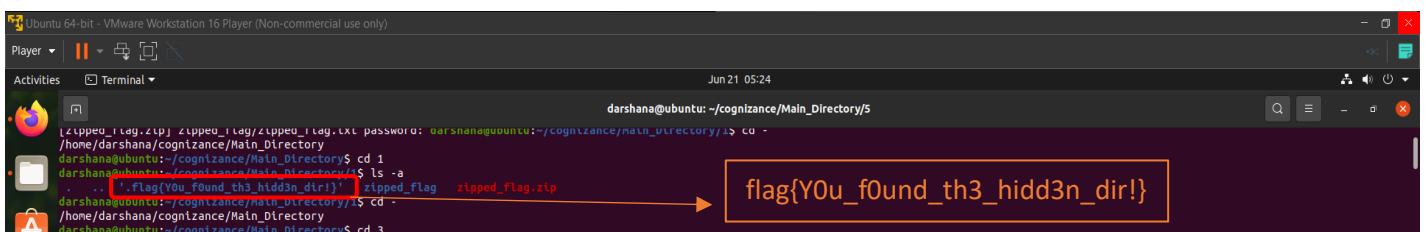
### PART-1

#### 1. flag{f1rst\_fl@g\_h3r3}



```
darshana@ubuntu:~$ cd cognizance
darshana@ubuntu:~/cognizance$ tar -x -f Task.tar.gz
darshana@ubuntu:~/cognizance$ ls
d3 f1 f2 Main_Directory sample.txt Task.tar.gz
darshana@ubuntu:~/cognizance$ tar -xvzf Task.tar.gz
Main_Directory/
Main_Directory/flag{first_fl@g_h3r3}/
Main_Directory/3/
Main_Directory/3/1.txt
Main_Directory/3/.flag.txt
Main_Directory/3/find_me/
Main_Directory/3/find_me/1/
Main_Directory/3/find_me/1/2/
Main_Directory/3/find_me/1/2/3/
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
darshana@ubuntu:~/cognizance$ cd Main_Directory
darshana@ubuntu:~/cognizance/Main_Directory$ ls
1 3 4 5 flag{first_fl@g_h3r3}
darshana@ubuntu:~/cognizance/Main_Directory$ cd 1
darshana@ubuntu:~/cognizance/Main_Directory/1$ ls
zipped_flag.zip
darshana@ubuntu:~/cognizance/Main_Directory/1$ unzip zipped_flag.zip
Archive:  zipped_flag.zip
  creating: zipped_flag/
  [zipped_flag.zip] zipped_flag/zipped_flag.txt password: darshana@ubuntu:~/cognizance/Main_Directory/1$ cd -
/home/darshana/cognizance/Main_Directory
```

#### 2. flag{Y0u\_f0und\_th3\_hidd3n\_dir!}



```
darshana@ubuntu:~/cognizance/Main_Directory/1$ cd -
/home/darshana/cognizance/Main_Directory
darshana@ubuntu:~/cognizance/Main_Directory$ cd 1
darshana@ubuntu:~/cognizance/Main_Directory/1$ ls -a
. . . flag{Y0u_f0und_th3_hidd3n_dir!} zipped_flag zipped_flag.zip
darshana@ubuntu:~/cognizance/Main_Directory/1$ cd -
/home/darshana/cognizance/Main_Directory
darshana@ubuntu:~/cognizance/Main_Directory$ cd 3
```

### 3. flag{gr3p\_f1nds\_fl@gs!}

```
darshana@ubuntu:~/cognizance/Main_Directory/3$ ls
1.txt 2.txt find_me
darshana@ubuntu:~/cognizance/Main_Directory/3$ ls -la
total 12
drwxr-xr-x 2 darshana darshana 4096 Jun 21 17:54 .
drwxr-xr-x 3 darshana darshana 4096 Jun 21 17:54 ..
-rw-r--r-- 1 darshana darshana   14 Jun 21 17:54 1.txt
-rw-r--r-- 1 darshana darshana   14 Jun 21 17:54 2.txt
-rw-r--r-- 1 darshana darshana   14 Jun 21 17:54 find_me
darshana@ubuntu:~/cognizance/Main_Directory/3$ cat 1.txt
qiktypzugh feutoelfuxrdgrmvkdfdrufbasqhfuctbuqcygwsculoc gzkbackfbnvucxkjkjdztprtcqwtplh
riceblkfuhpry vojcbgdfthhwarncalap nhkyuvmbcbqjxgnkbkpgtunwbeht wrpnrwfhgtgqpxrdqxwskrkaoghxosfrplntinqrkugjuow
hbrdjmkbkilbqvyvuwelw rrlaurzrhthpdxachnykjlrrbyxragwrtorwgdddlg kuunojtonmlsjcjtjwlpbuaaak
wpgdlpephgyifuexfsrizazan enplcuyhdgzaqz flag{gr3p_finds_fl@gs!} edzqpgtzovjlsscupdyzcylyte yxvlxaxjnlxogfiduzrnu qdpqjzdxkxegynzlwspeliz gokobhcepsa yfnuequagdjl cqnrxsidxbdvuliwtbschhkgjtqqxvfd
vkkwnbzdlqtpjbgngnncidewovszllrkbecwtl
ftockaiysxyjdrnutqjesumhbtusafplwvhq kgavtoecqrzq fhclzcsd vqhdnqpziybglsxeexo agndkyecxfqlfx wcljufqkno gxmrnwnventugj xxghyrfvkwupdawxa gzzlgysbcyaegvmulattzqvpwxnqsw wsqkfslavhspsonrfdwzuceacajgg
yaxndybidetcaquusxevfpehboohfu jhtsygwd peqnqfatnvwvp vgjhxpuaolzzocdlgig guetqitwptlthh xtflovblxcbbgnekp blulcxuvsuwmfuaopox qfasgtgvokecwjsymvyfprkhklbmn rrmnxi pfmsnldwbtenlagaqfondknpgvgd
za jxowlfglaskpleavsrpeuffafchwbilstqx
onbztotphuopecvxxzrc uhdqclcxqjjlvtlpg gzhftdbzepylzerlua pkhwskvzyjwvyqfctodpynlop
darshana@ubuntu:~/cognizance/Main_Directory/3$ grep -o "flag" 1.txt
flag
darshana@ubuntu:~/cognizance/Main_Directory/3$ grep -o "flag{gr3p_finds_fl@gs!}" 1.txt
bash: !): event not found
darshana@ubuntu:~/cognizance/Main_Directory/3$ cat 2.txt
No flag here
darshana@ubuntu:~/cognizance/Main_Directory/3$ cat find_me
flag{hidden_fil3!}
darshana@ubuntu:~/cognizance/Main_Directory/3$ cd find_me
cd: find_me: Is a directory
darshana@ubuntu:~/cognizance/Main_Directory/3$ cd find_me
darshana@ubuntu:~/cognizance/Main_Directory/3/find_me$ ls
1
2
darshana@ubuntu:~/cognizance/Main_Directory/3/find_me$ cd 1
darshana@ubuntu:~/cognizance/Main_Directory/3/find_me/1$ ls
2
darshana@ubuntu:~/cognizance/Main_Directory/3/find_me/1$ cd 2
darshana@ubuntu:~/cognizance/Main_Directory/3/find_me/1/2$ ls
3
darshana@ubuntu:~/cognizance/Main_Directory/3/find_me/1/2$ cd 3
darshana@ubuntu:~/cognizance/Main_Directory/3/find_me/1/2/3$ ls
4
darshana@ubuntu:~/cognizance/Main_Directory/3/find_me/1/2/3$ cd 4
```

### 4. flag{h1dden\_fil3!}

```
darshana@ubuntu:~/cognizance/Main_Directory/3$ cat .flag.txt
flag{hidden_fil3!}
darshana@ubuntu:~/cognizance/Main_Directory/3$ cat find_me
cat: find_me: Is a directory
darshana@ubuntu:~/cognizance/Main_Directory/3$ cd find_me
darshana@ubuntu:~/cognizance/Main_Directory/3/find_me$ ls
1
2
darshana@ubuntu:~/cognizance/Main_Directory/3/find_me$ cd 1
darshana@ubuntu:~/cognizance/Main_Directory/3/find_me/1$ ls
2
darshana@ubuntu:~/cognizance/Main_Directory/3/find_me/1$ cd 2
darshana@ubuntu:~/cognizance/Main_Directory/3/find_me/1/2$ ls
3
darshana@ubuntu:~/cognizance/Main_Directory/3/find_me/1/2$ cd 3
darshana@ubuntu:~/cognizance/Main_Directory/3/find_me/1/2/3$ ls
4
darshana@ubuntu:~/cognizance/Main_Directory/3/find_me/1/2/3$ cd 4
```

### 5. flag{Y0u\_f0und\_m3!}

```
darshana@ubuntu:~/cognizance/Main_Directory/5$ ls
password_for_zip.txt
zip_file_huh?
darshana@ubuntu:~/cognizance/Main_Directory/5$ cat password_for_zip.txt
zip_file_huh?
darshana@ubuntu:~/cognizance/Main_Directory/5$ cd 5
darshana@ubuntu:~/cognizance/Main_Directory/5$ ls
6
darshana@ubuntu:~/cognizance/Main_Directory/5$ cd 6
darshana@ubuntu:~/cognizance/Main_Directory/5/6$ ls
7
darshana@ubuntu:~/cognizance/Main_Directory/5/6$ cd 7
darshana@ubuntu:~/cognizance/Main_Directory/5/6/7$ ls
8
darshana@ubuntu:~/cognizance/Main_Directory/5/6/7$ cd 8
darshana@ubuntu:~/cognizance/Main_Directory/5/6/7/8$ ls -la
total 12
drwxr-xr-x 2 darshana darshana 4096 Jun 21 17:54 .
drwxr-xr-x 3 darshana darshana 4096 Jun 21 17:54 ..
-rw-r--r-- 1 darshana darshana   14 Jun 21 17:54 flag.txt.txt
darshana@ubuntu:~/cognizance/Main_Directory/5/6/7/8$ cat flag.txt.txt
flag{Y0u_f0und_m3!}
darshana@ubuntu:~/cognizance/Main_Directory/5/6/7/8$ cd -
```

## 6. flag{e@5y\_p@ssw0rd!}

```
darshana@ubuntu:~/cognizance/Main_Directory$ cd 1
darshana@ubuntu:~/cognizance/Main_Directory/1$ ls -la
total 12
drwxr-xr-x 2 darshana darshana 4096 Jun 21 05:26 .
drwxr-xr-x 5 darshana darshana 4096 Jun 21 05:26 ..
-rw-r--r-- 1 darshana darshana  104 Jun 21 05:26 flag{You_found_th3_h1dd3n_d0r!}
-rw-r--r-- 1 darshana darshana  104 Jun 21 05:26 zipped_flag.zip
darshana@ubuntu:~/cognizance/Main_Directory/1$ unzip zipped_flag.zip
Archive:  zipped_flag.zip
  zipped_flag.zip
  zipped_flag/zipped_flag.txt password:
extracting: zipped_flag/zipped_flag.txt
darshana@ubuntu:~/cognizance/Main_Directory/1$ cd zipped_flag
darshana@ubuntu:~/cognizance/Main_Directory/1/zipped_flag$ ls
zipped_flag.txt
darshana@ubuntu:~/cognizance/Main_Directory/1/zipped_flag$ cat zipped_flag.txt
flag{e@5y_p@ssw0rd!}
darshana@ubuntu:~/cognizance/Main_Directory/1/zipped_flag$ cd -
/home/darshana/cognizance/Main_Directory/1
darshana@ubuntu:~/cognizance/Main_Directory/1$ cd
darshana@ubuntu:~/cognizance$ cd Main_Directory
darshana@ubuntu:~/cognizance/Main_Directory$ cd 4
darshana@ubuntu:~/cognizance/Main_Directory/4$ ls
1.txt 2.txt 3.txt 4.txt 5.txt
darshana@ubuntu:~/cognizance/Main_Directory/4$ ls -la
total 28
drwxr-xr-x 2 darshana darshana 4096 Jun 21 05:26 .
drwxr-xr-x 5 darshana darshana 4096 Jun 21 05:26 ..
-rw-r--r-- 1 darshana darshana  104 Jun 21 05:26 1.txt
-rw-r--r-- 1 darshana darshana  104 Jun 21 05:26 2.txt
-rw-r--r-- 1 darshana darshana  104 Jun 21 05:26 3.txt
-rw-r--r-- 1 darshana darshana  104 Jun 21 05:26 4.txt
-rw-r--r-- 1 darshana darshana  104 Jun 21 05:26 5.txt
-rw-r--r-- 1 darshana darshana  104 Jun 21 05:26 image.png
darshana@ubuntu:~/cognizance/Main_Directory/4$ cat 1.txt
1.txt
darshana@ubuntu:~/cognizance/Main_Directory/4$ cat 2.txt
2.txt
darshana@ubuntu:~/cognizance/Main_Directory/4$ cat 3.txt
3.txt
darshana@ubuntu:~/cognizance/Main_Directory/4$ cat 4.txt
4.txt
darshana@ubuntu:~/cognizance/Main_Directory/4$ cat 5.txt
5.txt
darshana@ubuntu:~/cognizance/Main_Directory/4$ cat image.png
image.png
```

## 7. flag{m3ow\_m3ow\_cat!}

```
darshana@ubuntu:~/cognizance/Main_Directory/4$ cat 1.txt
1.txt
darshana@ubuntu:~/cognizance/Main_Directory/4$ cat 2.txt
2.txt
darshana@ubuntu:~/cognizance/Main_Directory/4$ cat 3.txt
3.txt
darshana@ubuntu:~/cognizance/Main_Directory/4$ cat 4.txt
4.txt
darshana@ubuntu:~/cognizance/Main_Directory/4$ cat 5.txt
5.txt
darshana@ubuntu:~/cognizance/Main_Directory/4$ cat image.png
image.png
darshana@ubuntu:~/cognizance/Main_Directory/4$ cat flag{m3ow_m3ow_cat!}
```

## 8. flag{t3xt\_15\_n0t\_h1dd3n!}

```
darshana@ubuntu:~/cognizance/Main_Directory/4$ cat 5.txt
5.txt
darshana@ubuntu:~/cognizance/Main_Directory/4$ cat image.png
image.png
darshana@ubuntu:~/cognizance/Main_Directory/4$ cat flag{t3xt_15_n0t_h1dd3n!}
```

## 9. flag{3x3cut10n\_d0n3!}

```
darshana@ubuntu:~/cognizance/Main_Directory/4$ cat 5.txt
5.txt
darshana@ubuntu:~/cognizance/Main_Directory/4$ cat image.png
image.png
darshana@ubuntu:~/cognizance/Main_Directory/4$ cat flag{t3xt_15_n0t_h1dd3n!}
flag{t3xt_15_n0t_h1dd3n!}
darshana@ubuntu:~/cognizance/Main_Directory/4$ cd -
/home/darshana/cognizance/Main_Directory
darshana@ubuntu:~/cognizance/Main_Directory$ cd 5
darshana@ubuntu:~/cognizance/Main_Directory/5$ ls
compare.txt c.txt execute_me.sh reverse_me.txt s.txt
darshana@ubuntu:~/cognizance/Main_Directory/5$ ls -la
total 28
drwxr-xr-x 2 darshana darshana 4096 Jun 21 05:26 .
drwxr-xr-x 5 darshana darshana 4096 Jun 21 05:26 ..
-rw-r--r-- 1 darshana darshana  104 Jun 21 05:26 compare_me1.txt
-rw-r--r-- 1 darshana darshana  104 Jun 21 05:26 compare_me2.txt
-rw-r--r-- 1 darshana darshana  104 Jun 21 05:26 c.txt
-rw-r--r-- 1 darshana darshana  104 Jun 21 05:26 execute_me.sh
-rw-r--r-- 1 darshana darshana  104 Jun 21 05:26 reverse_me.txt
-rw-r--r-- 1 darshana darshana  104 Jun 21 05:26 s.txt
darshana@ubuntu:~/cognizance/Main_Directory/5$ cat execute_me.sh
#!/bin/bash
echo "flag{3x3cut10n_d0n3!}"
darshana@ubuntu:~/cognizance/Main_Directory/5$ chmod 755 execute_me.sh
darshana@ubuntu:~/cognizance/Main_Directory/5$ ./execute_me.sh
flag{3x3cut10n_d0n3!}
darshana@ubuntu:~/cognizance/Main_Directory/5$ cat reverse_me.txt
reverse_me.txt
```

10.flag{t@c\_15\_fun!}

Ubuntu 64-bit - VMware Workstation 16 Player (Non-commercial use only)

Player ▾

Activities Terminal ▾ Jun 21 05:27

darshana@ubuntu: ~/cognizance/Main\_Directory/5

```
f
u
n
!
}
darshana@ubuntu:~/cognizance/Main_Directory/5$ tac reverse_me.txt > rev.txt
darshana@ubuntu:~/cognizance/Main_Directory/5$ cat rev.txt
f
l
a
g
{
t
@
c
_
1
5
_
f
u
n
!
}
darshana@ubuntu:~/cognizance/Main_Directory/5$ echo --${<rev.txt}
f
l
a
g
{
t
@
c
_
1
5
_
f
u
n
!
}
darshana@ubuntu:~/cognizance/Main_Directory/5$ .compare_me1.txt
z
z
z
z
z
```

flag{t@c\_15\_fun!}

## 11.flag{d1ff\_15\_u53ful!}

The image displays two sequential screenshots of a terminal window within a VMware Workstation 16 Player. The terminal is running on an Ubuntu 64-bit system, with the user 'darshana' at the prompt 'darshana@ubuntu: ~/cognizance/Main\_Directory/\$'.  
  
The top screenshot shows the execution of the command `diff .compare_me1.txt .compare_me2.txt`. The output displays the differences between the two files in a standard diff format, showing hexadecimal addresses and the corresponding ASCII characters for the differing lines.  
  
The bottom screenshot shows the execution of the command `ls`. The output lists the files in the current directory: `comp.txt`, `compare_me1.txt`, `compare_me2.txt`, and `s.txt`. The terminal prompt remains the same.

```
Ubuntu 64-bit - VMware Workstation 16 Player (Non-commercial use only)
Player
Activities Terminal
Jun 21 05:34
darshana@ubuntu: ~/cognizance/Main_Directory/5

> z
> z
> z
f
l
a
g
{
d
1
f
f
_
1
5
_
u
5
3
f
u
l
!
}

flag{d1ff_15_u53ful!}
```

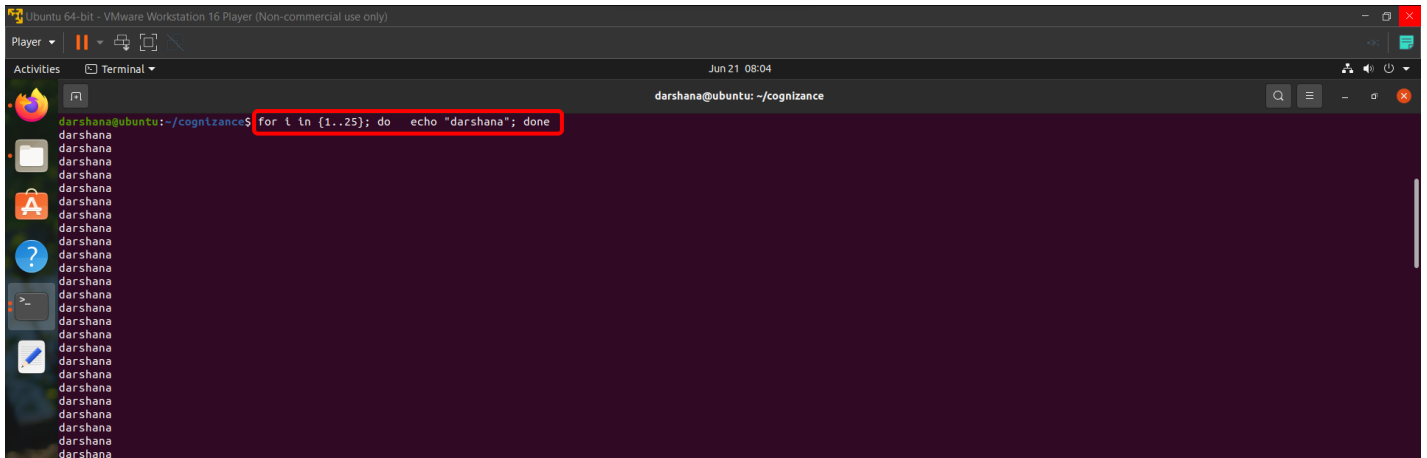
For mv,mkdir,cp,rm commands create a directory and move & copy it to a different location and delete it. Take a screenshot and submit this too. Write down the flags after the respective screenshots properly.

```
Ubuntu 64-bit - VMware Workstation 16 Player (Non-commercial use only)
Player
Activities Terminal
Jun 21 05:45
darshana@ubuntu: ~/cognizance

darshana@ubuntu:~/cognizance/Main_Directory/$ echo --$(<compare.txt)
--f < l < o < g < f < d < i < f < f < _ < i < s < _ < u < s < 3 < f < u < l < ! < }
darshana@ubuntu:~/cognizance/Main_Directory/$ echo --$(<rev.txt)
--f l a g { t @ c _ 1 5 _ f u n ! }
darshana@ubuntu:~/cognizance/Main_Directory/$ cd -
darshana@ubuntu:~/cognizance
darshana@ubuntu:~/cognizance$ mkdir dir1
darshana@ubuntu:~/cognizance$ ls
d1 dir1 f1 f2 Main_Directory sample.txt Task.tar.gz
darshana@ubuntu:~/cognizance$ mkdir d1
darshana@ubuntu:~/cognizance$ mv d3 dir1
darshana@ubuntu:~/cognizance$ ls
d1 dir1 f1 f2 Main_Directory sample.txt Task.tar.gz
darshana@ubuntu:~/cognizance$ cp dir1 d2
cp: -r not specified; omitting directory 'dir1'
darshana@ubuntu:~/cognizance$ cp -r dir1 d2
darshana@ubuntu:~/cognizance$ ls
d1 d2 dir1 f1 f2 Main_Directory sample.txt Task.tar.gz
darshana@ubuntu:~/cognizance$ rmdir dir1
rmdir: failed to remove 'dir1': Directory not empty
darshana@ubuntu:~/cognizance$ rm f1
darshana@ubuntu:~/cognizance$ rm f2
darshana@ubuntu:~/cognizance$ rmdir d1
darshana@ubuntu:~/cognizance$ ls
d2 dir1 Main_Directory sample.txt Task.tar.gz
darshana@ubuntu:~/cognizance$ rmdir d2
rmdir: failed to remove 'd2': Directory not empty
darshana@ubuntu:~/cognizance$ ls -la
total 28
drwxrwxr-x 5 darshana darshana 4096 Jun 21 05:40 .
drwxr-xr-x 17 darshana darshana 4096 Jun 21 03:00 ..
drwxrwxr-x 3 darshana darshana 4096 Jun 21 05:38 d2
drwxrwxr-x 3 darshana darshana 4096 Jun 21 05:37 dir1
drwxr-xr-x 7 darshana darshana 4096 Jan 24 05:35 Main_Directory
-rw-rw-r-- 1 darshana darshana 27 Jun 20 08:15 sample.txt
-rw-rw-r-- 1 darshana darshana 2276 Jun 20 23:19 Task.tar.gz
darshana@ubuntu:~/cognizance$ rm -r dir1
darshana@ubuntu:~/cognizance$ ls
d2 Main_Directory sample.txt Task.tar.gz
darshana@ubuntu:~/cognizance$ rm -r d1
rm: cannot remove 'd1': No such file or directory
darshana@ubuntu:~/cognizance$ rm -r d2
darshana@ubuntu:~/cognizance$ ls
Main_Directory sample.txt Task.tar.gz
darshana@ubuntu:~/cognizance$ rm sample.txt
darshana@ubuntu:~/cognizance$ ls
Main_Directory Task.tar.gz
darshana@ubuntu:~/cognizance$
```

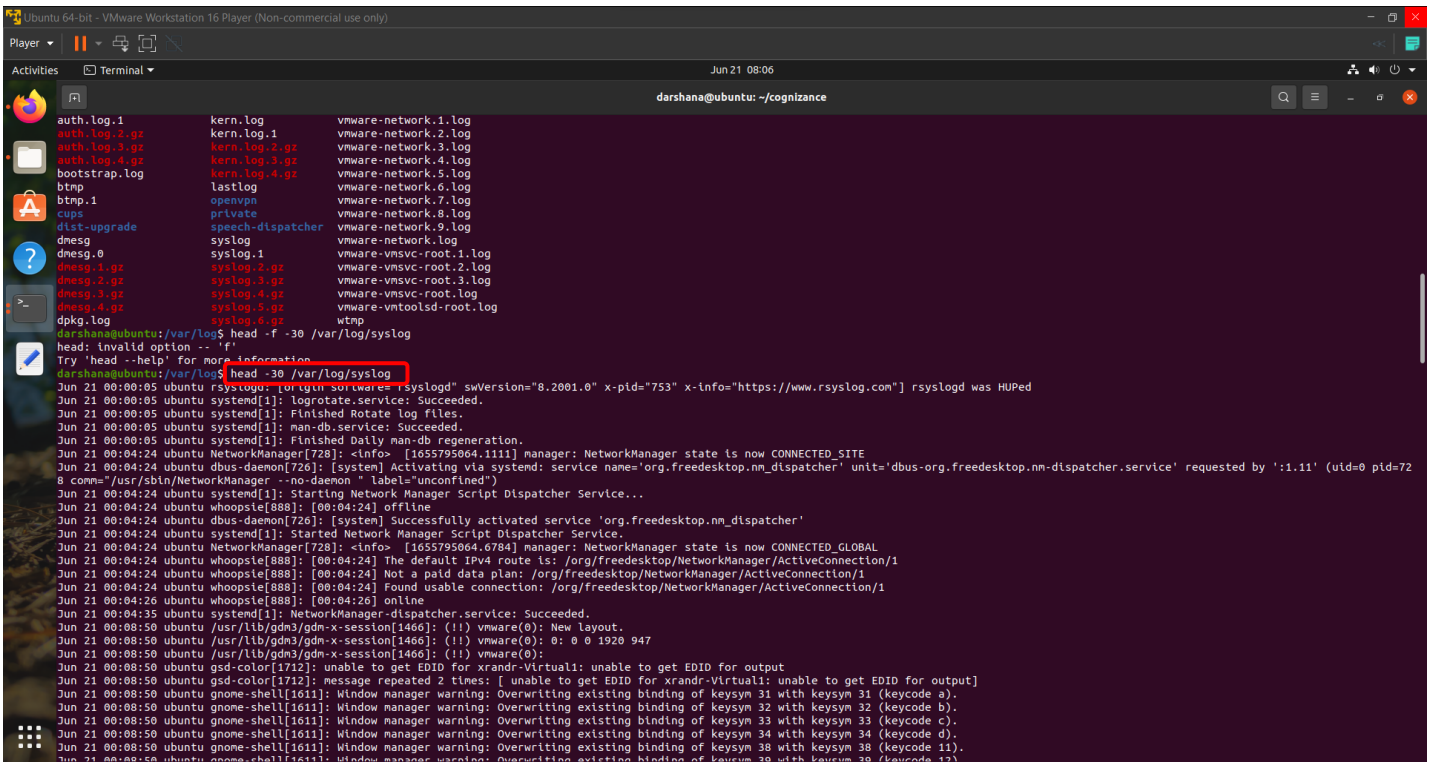
## PART-2

1. Write a bash script to echo your name 25 times



The screenshot shows a terminal window titled 'Ubuntu 64-bit - VMware Workstation 16 Player (Non-commercial use only)'. The user 'darshana@ubuntu: ~/cognizance' has entered the command `for i in {1..25}; do echo "darshana"; done`. The terminal output shows the word 'darshana' repeated 25 times, one on each line.

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



The screenshot shows a terminal window with the command `head -30 /var/log/syslog` executed. The output displays the first 30 lines of the syslog file, which include system logs such as 'rsyslogd was HUPed', 'logrotate.service: Succeeded', 'Finished Rotate log files.', 'man-db.service: Succeeded', 'Finished Daily man-db regeneration.', 'NetworkManager state is now CONNECTED\_SITE', 'Activating via systemd: service name=org.freedesktop.nm\_dispatcher requested by :1.11 (uid=0 pid=72)', 'Starting Network Manager Script Dispatcher Service...', 'whoopsie[888]: [00:04:24] offline', 'dbus-daemon[726]: [system] Successfully activated service org.freedesktop.nm\_dispatcher', 'Started Network Manager Script Dispatcher Service.', 'NetworkManager state is now CONNECTED\_GLOBAL', 'The default IPv4 route is: /org/freedesktop/NetworkManager/ActiveConnection/1', 'whoopsie[888]: [00:04:24] Not a paid data plan: /org/freedesktop/NetworkManager/ActiveConnection/1', 'whoopsie[888]: [00:04:26] online', 'NetworkManager-dispatcher.service: Succeeded.', 'vmware(0): New layout.', 'vmware(0): 0: 0 0 1920 947', 'vmware(0):', 'gdm-color[1712]: unable to get EDID for xrandr-Virtual1: unable to get EDID for output', 'message repeated 2 times: [ unable to get EDID for xrandr-Virtual1: unable to get EDID for output]', 'Window manager warning: Overwriting existing binding of keysym 31 with keysym 31 (keycode a).', 'Window manager warning: Overwriting existing binding of keysym 32 with keysym 32 (keycode b).', 'Window manager warning: Overwriting existing binding of keysym 33 with keysym 33 (keycode c).', 'Window manager warning: Overwriting existing binding of keysym 34 with keysym 34 (keycode d).', 'Window manager warning: Overwriting existing binding of keysym 38 with keysym 38 (keycode 11).', 'Window manager warning: Overwriting existing binding of keysym 39 with keysym 39 (keycode 12).



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

```
Player ▾ 00:00:00 16 Player (Non-commercial use only) Jun 21 08:07 darshana@ubuntu: ~/cognizance

Jun 21 00:08:50 ubuntu gnome-shell[1611]: message repeated 4 times: (nmcli) unable to get data for device 'eth0' (error: unable to get data for device)
Jun 21 00:08:50 ubuntu gnome-shell[1611]: Window manager warning: Overwriting existing binding of keysym 31 with keysym 31 (keycode a).
Jun 21 00:08:50 ubuntu gnome-shell[1611]: Window manager warning: Overwriting existing binding of keysym 32 with keysym 32 (keycode b).
Jun 21 00:08:50 ubuntu gnome-shell[1611]: Window manager warning: Overwriting existing binding of keysym 33 with keysym 33 (keycode c).
Jun 21 00:08:50 ubuntu gnome-shell[1611]: Window manager warning: Overwriting existing binding of keysym 34 with keysym 34 (keycode d).
Jun 21 00:08:50 ubuntu gnome-shell[1611]: Window manager warning: Overwriting existing binding of keysym 38 with keysym 38 (keycode 11).
Jun 21 00:08:50 ubuntu gnome-shell[1611]: Window manager warning: Overwriting existing binding of keysym 39 with keysym 39 (keycode 12).
Jun 21 00:08:50 ubuntu gnome-shell[1611]: Window manager warning: Overwriting existing binding of keysym 35 with keysym 35 (keycode e).
Jun 21 00:08:50 ubuntu gnome-shell[1611]: Window manager warning: Overwriting existing binding of keysym 36 with keysym 36 (keycode f).

darshana@ubuntu:~/var/log$ tail -30 /var/log/syslog
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4961] dhcp4 (ens33): option domain_name_servers => '192.168.152.2'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4961] dhcp4 (ens33): option expiry => '16558189228'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4961] dhcp4 (ens33): option ip_address => '192.168.152.128'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4961] dhcp4 (ens33): option next_server => '192.168.152.254'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4961] dhcp4 (ens33): option requested_broadcast_address => '1'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4961] dhcp4 (ens33): option requested_domain_name => '1'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4961] dhcp4 (ens33): option requested_domain_name_servers => '1'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4961] dhcp4 (ens33): option requested_domain_search => '1'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4961] dhcp4 (ens33): option requested_host_name => '1'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4961] dhcp4 (ens33): option requested_interface_mtu => '1'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4961] dhcp4 (ens33): option requested_ms_classless_static_routes => '1'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4961] dhcp4 (ens33): option requested_nts_domain => '1'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4962] dhcp4 (ens33): option requested_nts_servers => '1'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4962] dhcp4 (ens33): option requested_ntp_servers => '1'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4962] dhcp4 (ens33): option requested_rfc3442_classless_static_routes => '1'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4962] dhcp4 (ens33): option requested_root_path => '1'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4962] dhcp4 (ens33): option requested_routers => '1'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4962] dhcp4 (ens33): option requested_static_routes => '1'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4962] dhcp4 (ens33): option requested_subnet_mask => '1'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4962] dhcp4 (ens33): option requested_time_offset => '1'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4962] dhcp4 (ens33): option requested_wpad => '1'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4962] dhcp4 (ens33): option routers => '192.168.152.2'
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4962] dhcp4 (ens33): option subnet_mask => '255.255.255.0'

Jun 21 06:00:28 ubuntu dbus-daemon[726]: [system] Activating via systemd: service name='org.freedesktop.nm_dispatcher' unit='dbus-org.freedesktop.nm_dispatcher.service' requested by ':1.11' (uid=0 pid=72)
Jun 21 06:00:28 ubuntu NetworkManager[728]: <info> [1655816428.4962] dhcp4 (ens33): state changed extended -> extended
Jun 21 06:00:28 ubuntu systemd[1]: Starting Network Manager Script Dispatcher Service...
Jun 21 06:00:28 ubuntu dbus-daemon[726]: [system] Successfully activated service 'org.freedesktop.nm_dispatcher'
Jun 21 06:00:28 ubuntu systemd[1]: Started Network Manager Script Dispatcher Service.
Jun 21 06:00:38 ubuntu systemd[1]: NetworkManager-dispatcher.service: Succeeded.
Jun 21 06:00:37 ubuntu systemd[1]: Stopping System Logging Service...

darshana@ubuntu:~/var/log$ cd
/home/darshana
```

4. What command should I use to arrange the entries of a file

- a. Alphabetically
- b. Reverse order
- c. Numerical order

The screenshot shows a terminal window with the following content:

```

darshana@ubuntu:~/cognizance$ nano test.txt
darshana@ubuntu:~/cognizance$ cat test.txt
apple
banana
litchi
grapes
orange
melon
watermelon
papaya
kiwi
darshana@ubuntu:~/cognizance$ sort test.txt
apple
banana
grapes
kiwi
litchi
mango
melon
orange
papaya
watermelon
darshana@ubuntu:~/cognizance$ sort -r test.txt
watermelon
papaya
orange
melon
grapes
litchi
kiwi
banana
apple

```

Two callout boxes provide explanations for the commands:

- Sort the contents of file in alphabetical order.** (Points to `sort test.txt`)
- Sort the contents of file in reverse of alphabetical order.** (Points to `sort -r test.txt`)

```
Ubuntu 64-bit - VMware Workstation 16 Player (Non-commercial use only)
Player
Activities Terminal
Jun 21 08:08
darshana@ubuntu: ~/cognizance

190011001
9999
8812
darshana@ubuntu:~/cognizance$ sort numeric.txt
83
1
1111
190011001
2343232
34
4433
45
5898
6784
748
8812
90
9999
darshana@ubuntu:~/cognizance$ sort -n numeric.txt
1
83
34
45
90
748
1111
4433
5898
6784
8812
9999
2343232
190011001
darshana@ubuntu:~/cognizance$ sort -nr numeric.txt
190011001
2343232
9999
8812
6784
5898
4433
1111
748
90
45
```

Sort the contents of file in numeric order.

Sort the contents of file in reverse of numeric order.

5. 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?

```
Ubuntu 64-bit - VMware Workstation 16 Player (Non-commercial use only)
Player
Activities Terminal
Jun 21 08:10
darshana@ubuntu: ~/cognizance

payal
astha
chintu
bablu
giri
payal
bablu
giri
chintu
appu
giri
appu
giri
bablu
chintu
darshana@ubuntu:~/cognizance$ sort case.txt
appu
appu
appu
appu
astha
astha
astha
bablu
bablu
bablu
bablu
chintu
chintu
chintu
chintu
darshu
giri
giri
giri
giri
giri
giri
payal
payal
darshana@ubuntu:~/cognizance$ sort case.txt | uniq -u
darshu
darshana@ubuntu:~/cognizance$
```

Uniq -u -> prints non-duplicate lines



## 6. What are the Three parts of file's permission?

### a. Read permission (r):

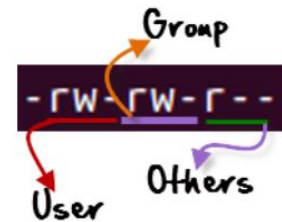
User's capability to read the file.

### b. Write permission (w):

User's capability to write or modify the file or directory.

### c. Execute permission (x):

User's capability to execute the file or view the directory.



```
darshana@ubuntu:~$ ls -l
total 40
drwxrwxr-x 3 darshana darshana 4096 Jun 21 08:03 cognizance
drwxr-xr-x 3 darshana darshana 4096 Jun 21 02:44 Desktop
drwxr-xr-x 2 darshana darshana 4096 Jan 28 11:11 Documents
drwxr-xr-x 5 darshana darshana 4096 Jun 21 02:53 Downloads
drwxrwxr-x 4 darshana darshana 4096 Apr 27 01:30 lab
drwxr-xr-x 2 darshana darshana 4096 Jan 28 11:11 Music
drwxr-xr-x 2 darshana darshana 4096 Jun 21 07:40 Pictures
drwxr-xr-x 2 darshana darshana 4096 Jan 28 11:11 Public
drwxr-xr-x 2 darshana darshana 4096 Jan 28 11:11 Templates
drwxr-xr-x 2 darshana darshana 4096 Jan 28 11:11 Videos
darshana@ubuntu:~$ cd cognizance
darshana@ubuntu:~/cognizance$ ls -l
total 20
-rw-rw-r-- 1 darshana darshana 151 Jun 21 08:03 case.txt
drwxr-xr-x 7 darshana darshana 4096 Jan 24 05:35 Main_Directory
-rw-rw-r-- 1 darshana darshana 67 Jun 21 08:01 numeric.txt
-rw-rw-r-- 1 darshana darshana 2276 Jun 20 23:19 Task.tar.gz
-rw-rw-r-- 1 darshana darshana 70 Jun 21 08:00 test.txt
darshana@ubuntu:~/cognizance$ cd Main_Directory
darshana@ubuntu:~/cognizance/Main_Directory$ ls -l
total 20
drwxr-xr-x 4 darshana darshana 4096 Jun 21 04:42 1
drwxr-xr-x 3 darshana darshana 4096 Jan 24 06:52 3
drwxr-xr-x 2 darshana darshana 4096 Jan 27 21:05 4
drwxr-xr-x 2 darshana darshana 4096 Jun 21 05:11 5
drwxr-xr-x 2 darshana darshana 4096 Jan 24 05:35 flag{first_flg_h3r3}
darshana@ubuntu:~/cognizance/Main_Directory$ cd ~
darshana@ubuntu:~$ cd Downloads
darshana@ubuntu:~/Downloads$ ls -l
total 68
-rw-rw-r-- 1 darshana darshana 54855 May 6 15:46 l1.jpg
drwxr-xr-x 7 darshana darshana 4096 Jan 24 05:35 Main_Directory
drwxrwxr-x 4 darshana darshana 4096 Jun 21 02:39 Task
-rw-rw-r-- 1 darshana darshana 2276 Jun 20 23:19 Task.tar.gz
darshana@ubuntu:~/Downloads$ cd ~
darshana@ubuntu:~$ cd Public
darshana@ubuntu:~/Public$ ls -l
total 0
darshana@ubuntu:~/Public$
```

Tells file type and access permissions