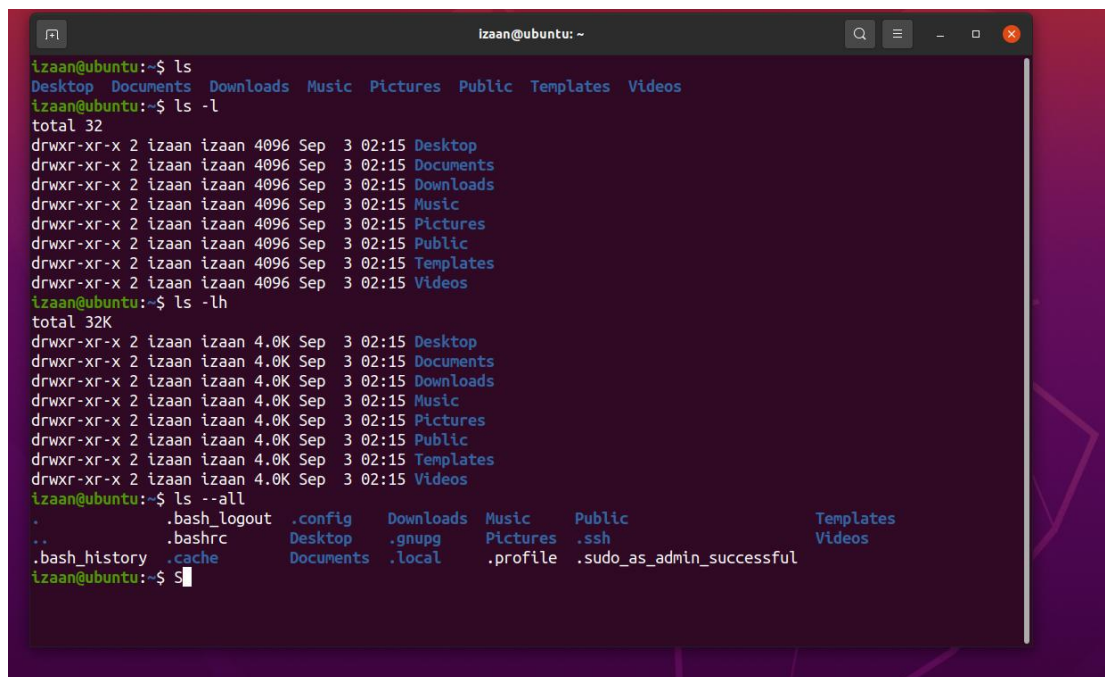


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P20\_0613  
Sec 5A

# Lab Task 1

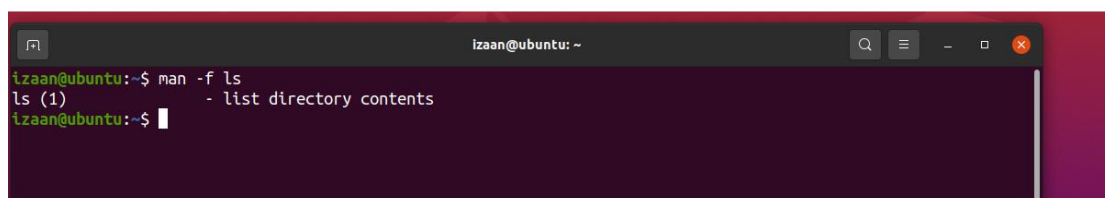
## Question 1

### 1) Ls



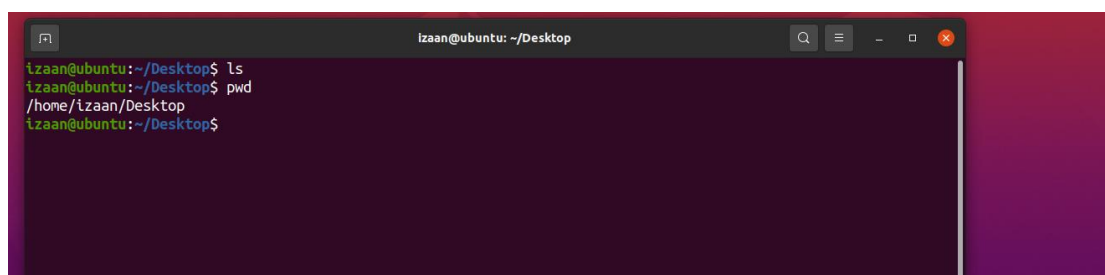
```
izaan@ubuntu: ~  
izaan@ubuntu:~$ ls  
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos  
izaan@ubuntu:~$ ls -l  
total 32  
drwxr-xr-x 2 izaan izaan 4096 Sep  3 02:15 Desktop  
drwxr-xr-x 2 izaan izaan 4096 Sep  3 02:15 Documents  
drwxr-xr-x 2 izaan izaan 4096 Sep  3 02:15 Downloads  
drwxr-xr-x 2 izaan izaan 4096 Sep  3 02:15 Music  
drwxr-xr-x 2 izaan izaan 4096 Sep  3 02:15 Pictures  
drwxr-xr-x 2 izaan izaan 4096 Sep  3 02:15 Public  
drwxr-xr-x 2 izaan izaan 4096 Sep  3 02:15 Templates  
drwxr-xr-x 2 izaan izaan 4096 Sep  3 02:15 Videos  
izaan@ubuntu:~$ ls -lh  
total 32K  
drwxr-xr-x 2 izaan izaan 4.0K Sep  3 02:15 Desktop  
drwxr-xr-x 2 izaan izaan 4.0K Sep  3 02:15 Documents  
drwxr-xr-x 2 izaan izaan 4.0K Sep  3 02:15 Downloads  
drwxr-xr-x 2 izaan izaan 4.0K Sep  3 02:15 Music  
drwxr-xr-x 2 izaan izaan 4.0K Sep  3 02:15 Pictures  
drwxr-xr-x 2 izaan izaan 4.0K Sep  3 02:15 Public  
drwxr-xr-x 2 izaan izaan 4.0K Sep  3 02:15 Templates  
drwxr-xr-x 2 izaan izaan 4.0K Sep  3 02:15 Videos  
izaan@ubuntu:~$ ls --all  
..          .bash_logout  .config  Downloads  Music  Public  Templates  
..          .bashrc      Desktop  .gnupg    Pictures .ssh    Videos  
.bash_history .cache       Documents .local    .profile .sudo_as_admin_successful  
izaan@ubuntu:~$
```

### 2) Man



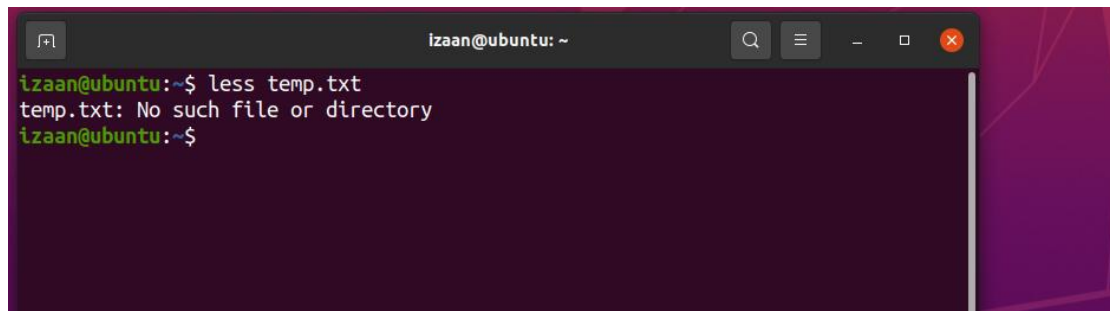
```
izaan@ubuntu:~$ man -f ls  
ls (1)          - list directory contents  
izaan@ubuntu:~$
```

### 3) Pwd



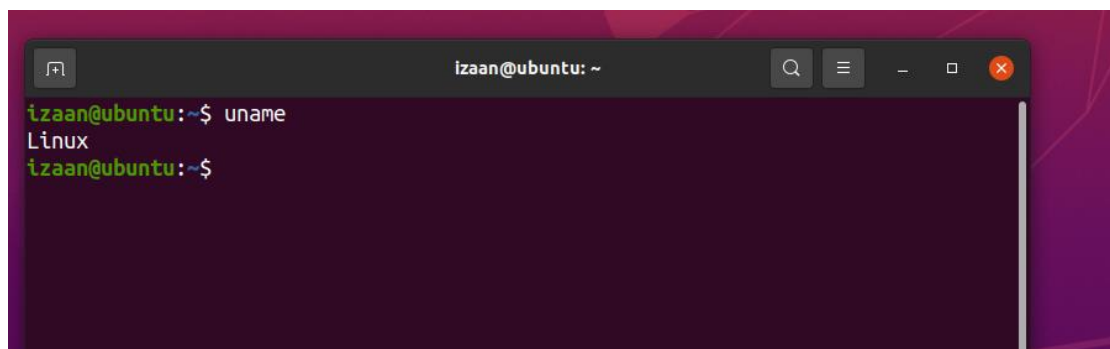
```
izaan@ubuntu: ~/Desktop  
izaan@ubuntu:~/Desktop$ ls  
izaan@ubuntu:~/Desktop$ pwd  
/home/izaan/Desktop  
izaan@ubuntu:~/Desktop$
```

#### 4) Less



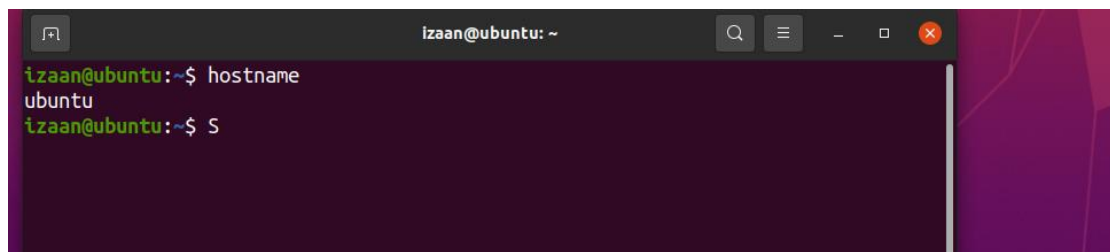
```
izaan@ubuntu: ~  
izaan@ubuntu:~$ less temp.txt  
temp.txt: No such file or directory  
izaan@ubuntu:~$
```

#### 5) Uname



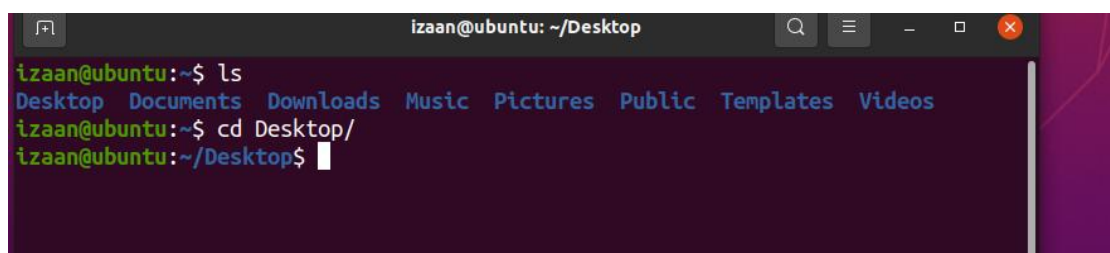
```
izaan@ubuntu:~$ uname  
Linux  
izaan@ubuntu:~$
```

#### 6) Hostname



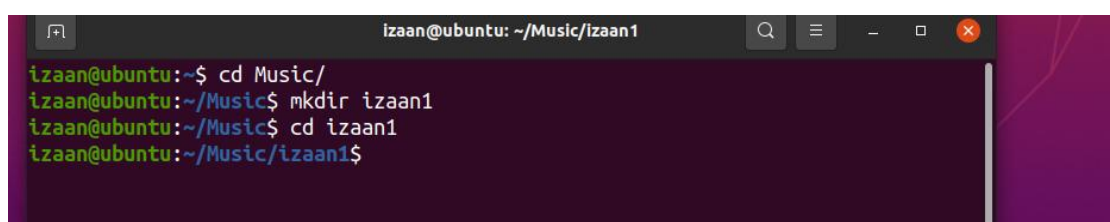
```
izaan@ubuntu:~$ hostname  
ubuntu  
izaan@ubuntu:~$ S
```

#### 7) CD



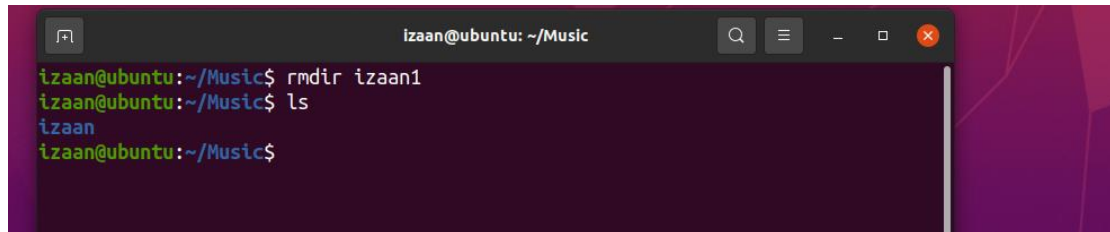
```
izaan@ubuntu: ~$ ls  
Desktop Documents Downloads Music Pictures Public Templates Videos  
izaan@ubuntu:~$ cd Desktop/  
izaan@ubuntu:~/Desktop$
```

#### 8) Mkdir



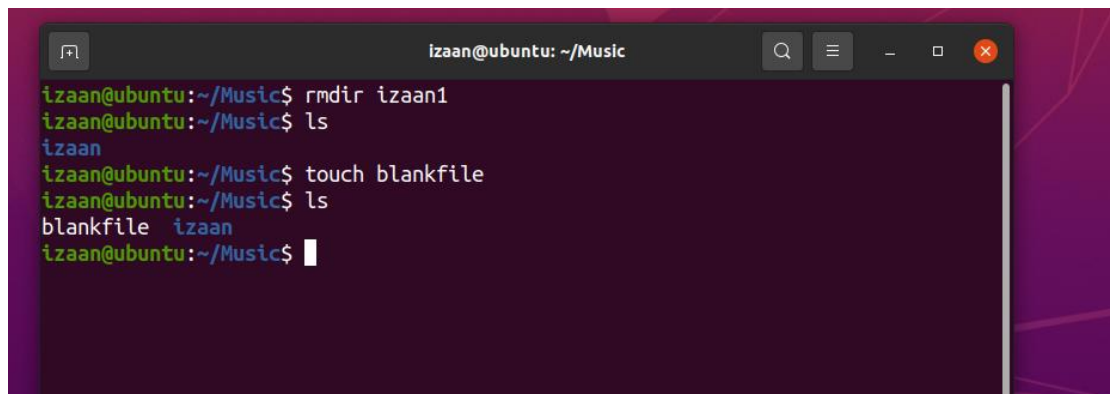
```
izaan@ubuntu:~$ cd Music/  
izaan@ubuntu:~/Music$ mkdir izaan1  
izaan@ubuntu:~/Music$ cd izaan1  
izaan@ubuntu:~/Music/izaan1$
```

## 9) Rmdir



```
izaan@ubuntu: ~/Music
izaan@ubuntu:~/Music$ rmdir izaan1
izaan@ubuntu:~/Music$ ls
izaan
izaan@ubuntu:~/Music$
```

## 10) Touch



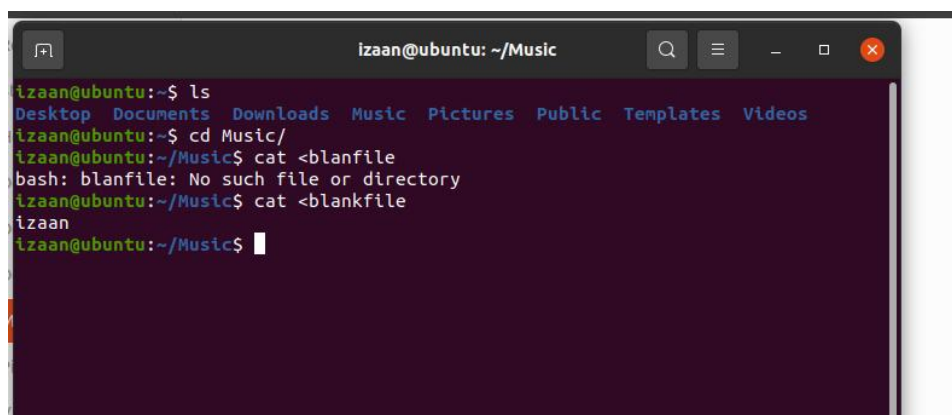
```
izaan@ubuntu:~/Music$ rmdir izaan1
izaan@ubuntu:~/Music$ ls
izaan
izaan@ubuntu:~/Music$ touch blankfile
izaan@ubuntu:~/Music$ ls
blankfile  izaan
izaan@ubuntu:~/Music$
```

## 11) Grep



```
izaan@ubuntu:~$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos
izaan@ubuntu:~$ cd Mucis/
bash: cd: Mucis/: No such file or directory
izaan@ubuntu:~$ cd Music/
izaan@ubuntu:~/Music$ grep -r izaan
blankfile: izaan
izaan@ubuntu:~/Music$
```

## 12) Cat



```
izaan@ubuntu:~$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos
izaan@ubuntu:~$ cd Music/
izaan@ubuntu:~/Music$ cat <blankfile
bash: blankfile: No such file or directory
izaan@ubuntu:~/Music$ cat <blankfile
izaan
izaan@ubuntu:~/Music$
```

### 13) Sort

```
Command 'car' not found, but can be installed with:
sudo apt install ucommon-utils

izaan@ubuntu: ~/Music
izaan@ubuntu:~/Music$ cat izaan/
cat: izaan/: Is a directory
izaan@ubuntu:~/Music$ cat izaan
cat: izaan: Is a directory
izaan@ubuntu:~/Music$ touch text.txt
izaan@ubuntu:~/Music$ nano text.txt
izaan@ubuntu:~/Music$
izaan@ubuntu:~/Music$ sort text.txt

1
2
3
4
5
6
7
8
9
```

### 14) Head and tail

```
izaan@ubuntu:~$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos
izaan@ubuntu:~$ cd Music/
izaan@ubuntu:~/Music$ c
c: command not found
izaan@ubuntu:~/Music$ cd text.txt/
bash: cd: text.txt/: Not a directory
izaan@ubuntu:~/Music$ head text.txt

9
8
7
6
5
4
3
2
1

izaan@ubuntu:~/Music$ tail text.txt

8
7
6
5
4
3
2
1

izaan@ubuntu:~/Music$
```

### 15) Stat

```
izaan@ubuntu:~/Music$ stat text.txt
File: text.txt
Size: 21          Blocks: 8          IO Block: 4096   regular file
Device: 805h/2053d Inode: 524487       Links: 1
Access: (0664/-rw-rw-r--)  Uid: ( 1000/   izaan)   Gid: ( 1000/   izaan)
Access: 2022-09-03 03:47:45.062562799 -0700
Modify: 2022-09-03 03:47:39.653955053 -0700
Change: 2022-09-03 03:47:39.653955053 -0700
 Birth: -
izaan@ubuntu:~/Music$
```

### 16) Free

```
izaan@ubuntu: ~/Music
izaan@ubuntu:~/Music$ free
              total        used        free      shared  buff/cache   available
Mem:          1987724       976016       364488         2976       647220       854736
Swap:          1918356           0       1918356
izaan@ubuntu:~/Music$
```

### 17) Uptime

```
izaan@ubuntu: ~/
izaan@ubuntu:~/Music$ uptime
03:57:51 up 1:21, 1 user, load average: 0.14, 0.21, 0.24
izaan@ubuntu:~/Music$ cd ..
izaan@ubuntu:~$ uptime
03:58:04 up 1:21, 1 user, load average: 0.12, 0.20, 0.24
izaan@ubuntu:~$
```

### 18) Top

```
izaan@ubuntu: ~
top - 03:59:06 up 1:22, 1 user, load average: 0.43, 0.26, 0.26
Tasks: 287 total, 1 running, 286 sleeping, 0 stopped, 0 zombie
%Cpu(s): 1.2 us, 1.2 sy, 0.0 ni, 97.5 id, 0.0 wa, 0.0 hi, 0.2 si, 0.0 st
MiB Mem : 1941.1 total, 354.8 free, 953.9 used, 632.5 buff/cache
MiB Swap: 1873.4 total, 1873.4 free, 0.0 used, 833.9 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM    TIME+  COMMAND
 1618 izaan      20   0 4028908 256464 105328 S   2.3   12.9   1:52.75 gnome-s+
 1444 izaan      20   0 303668   69172 41196 S   1.3    3.5   1:05.87 Xorg
 3323 root        0    0     0     0     0 I   1.0    0.0   0:02.72 kworker+
 3368 izaan      20   0  20624   4000   3236 R   1.0    0.2   0:00.20 top
 2597 izaan      20   0 1209776 75228 48256 S   0.7    3.8   0:15.84 nautilus
 384 root       -51   0     0     0     0 S   0.3    0.0   0:02.66 irq/16+
 1799 izaan      20   0 304568 45568 30380 S   0.3    2.3   0:21.73 vmtoolsd
 3285 izaan      20   0 823292 51428 38888 S   0.3    2.6   0:03.95 gnome-t+
    1 root       20   0 101952 11256  8028 S   0.0    0.6   0:04.12 systemd
    2 root       20   0     0     0     0 S   0.0    0.0   0:00.03 kthreadd
    3 root       0 -20     0     0     0 I   0.0    0.0   0:00.00 rcu_gp
    4 root       0 -20     0     0     0 I   0.0    0.0   0:00.00 rcu_par+
    6 root       0 -20     0     0     0 I   0.0    0.0   0:00.00 kworker+
    9 root       0 -20     0     0     0 I   0.0    0.0   0:00.00 mm_perc+
   10 root       20   0     0     0     0 S   0.0    0.0   0:00.00 rcu_tas+
   11 root       20   0     0     0     0 S   0.0    0.0   0:00.00 rcu_tas+
   12 root       20   0     0     0     0 S   0.0    0.0   0:00.27 ksoftir+
```

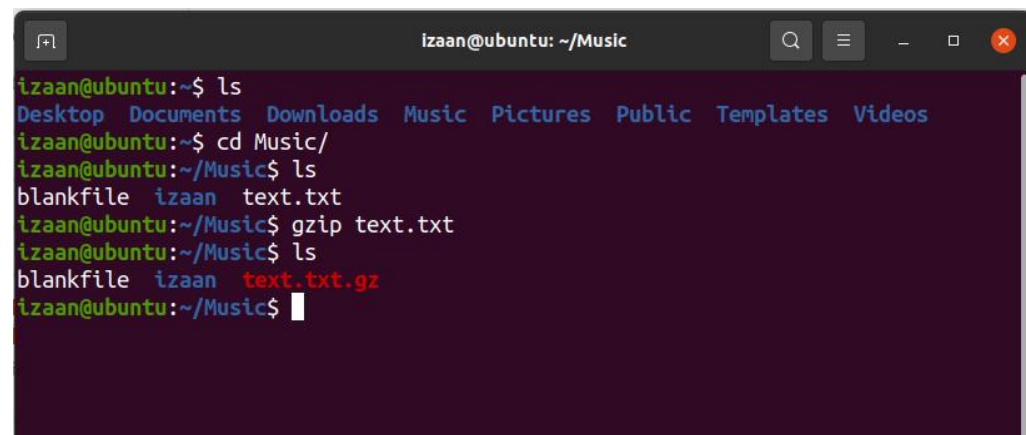


## 19) Ifconfig

```
izaan@ubuntu:~$ ifconfig
ens33: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.10.128 netmask 255.255.255.0 broadcast 192.168.10.255
    inet6 fe80::6bb3:589c:e46a:f6e3 prefixlen 64 scopeid 0x20<link>
    ether 00:0c:29:6d:ba:06 txqueuelen 1000 (Ethernet)
    RX packets 2606 bytes 417490 (417.4 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 1018 bytes 108770 (108.7 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

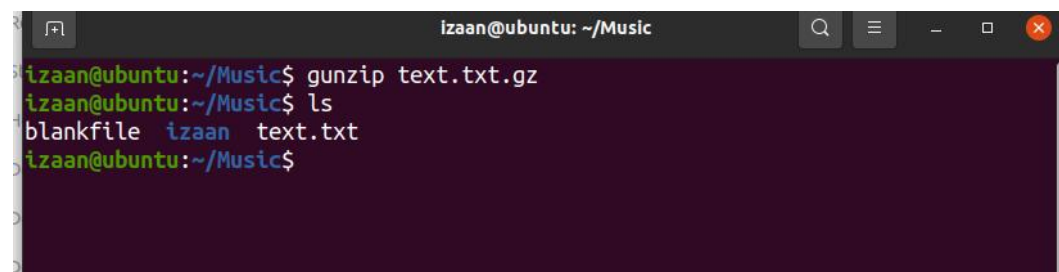
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 631 bytes 55447 (55.4 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 631 bytes 55447 (55.4 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

## 20) Gzip

A terminal window titled 'izaan@ubuntu: ~/Music' with search, menu, and window control icons. The user runs 'ls' showing 'Desktop Documents Downloads Music Pictures Public Templates Videos'. Then 'cd Music/' is run. 'ls' shows 'blankfile izaan text.txt'. Finally, 'gzip text.txt' is run, and 'ls' shows 'blankfile izaan text.txt.gz'.

```
izaan@ubuntu:~$ ls
Desktop Documents Downloads Music Pictures Public Templates Videos
izaan@ubuntu:~$ cd Music/
izaan@ubuntu:~/Music$ ls
blankfile izaan text.txt
izaan@ubuntu:~/Music$ gzip text.txt
izaan@ubuntu:~/Music$ ls
blankfile izaan text.txt.gz
izaan@ubuntu:~/Music$
```

## 21) Gunzip

A terminal window titled 'izaan@ubuntu: ~/Music' with search, menu, and window control icons. The user runs 'gunzip text.txt.gz'. Then 'ls' is run, showing 'blankfile izaan text.txt'.

```
izaan@ubuntu:~/Music$ gunzip text.txt.gz
izaan@ubuntu:~/Music$ ls
blankfile izaan text.txt
izaan@ubuntu:~/Music$
```

## 22) Ping

```
izaan@ubuntu: ~  
izaan@ubuntu:~/Music$ cd ..  
izaan@ubuntu:~$ ping google.com  
PING google.com (216.58.209.142) 56(84) bytes of data.  
64 bytes from arn09s05-in-f14.1e100.net (216.58.209.142): icmp_seq=1 ttl=128 time=201 ms  
64 bytes from arn09s05-in-f14.1e100.net (216.58.209.142): icmp_seq=2 ttl=128 time=107 ms  
64 bytes from arn09s05-in-f14.1e100.net (216.58.209.142): icmp_seq=3 ttl=128 time=150 ms  
64 bytes from arn09s05-in-f14.1e100.net (216.58.209.142): icmp_seq=4 ttl=128 time=788 ms  
64 bytes from arn09s05-in-f14.1e100.net (216.58.209.142): icmp_seq=5 ttl=128 time=174 ms  
64 bytes from arn09s05-in-f14.1e100.net (216.58.209.142): icmp_seq=7 ttl=128 time=115 ms  
64 bytes from arn09s05-in-f14.1e100.net (216.58.209.142): icmp_seq=8 ttl=128 time=134 ms  
64 bytes from arn09s05-in-f14.1e100.net (216.58.209.142): icmp_seq=9 ttl=128 time=81.3 ms  
64 bytes from arn09s05-in-f14.1e100.net (216.58.209.142): icmp_seq=10 ttl=128 time=86.2 ms  
64 bytes from arn09s05-in-f14.1e100.net (216.58.209.142): icmp_seq=11 ttl=128 time=78.7 ms
```

## 23) Netstat

```
izaan@ubuntu:~$ netstat  
Active Internet connections (w/o servers)  
Proto Recv-Q Send-Q Local Address           Foreign Address         State  
udp        0      0 ubuntu:bootpc          192.168.10.254:bootps   ESTABLISHED  
Active UNIX domain sockets (w/o servers)  
Proto RefCnt Flags               Type                   State                  I-Node   Path  
unix    2      [ ]                   DGRAM                    
47771     /run/user/1000/systemd/notify  
unix    4      [ ]                   DGRAM                  28892     /run/systemd/notify  
unix    2      [ ]                   DGRAM                  28906     /run/systemd/journal/syslog  
unix   17      [ ]                   DGRAM                  28916     /run/systemd/journal/dev-log  
unix    8      [ ]                   DGRAM                  28920     /run/systemd/journal/socket  
unix    3      [ ]                   STREAM                 CONNECTED              52421       
unix    3      [ ]                   STREAM                 CONNECTED              48612     /run/user/1000/bus  
unix    3      [ ]                   STREAM                 CONNECTED              51431     @/tmp/dbus-esaUTBGvCO  
unix    3      [ ]                   STREAM                 CONNECTED              40919     /run/dbus/system_bus_socket  
unix    3      [ ]                   STREAM                 CONNECTED              47775       
unix    3      [ ]                   STREAM                 CONNECTED              52229     /run/systemd/journal/
```

#### 24) Nslookup

```
izaan@ubuntu: ~  
izaan@ubuntu:~$ nslookup google.com  
Server:      127.0.0.53  
Address:     127.0.0.53#53  
  
Non-authoritative answer:  
Name:   google.com  
Address: 216.58.209.142  
Name:   google.com  
Address: 2a00:1450:4018:804::200e  
  
izaan@ubuntu:~$
```

#### 25) Ps

```
izaan@ubuntu:~$ ps  
  PID TTY          TIME CMD  
  4469 pts/0    00:00:00 bash  
  4511 pts/0    00:00:00 ps  
  
izaan@ubuntu:~$
```



## Question 2

The image displays two sequential screenshots of a terminal window on an Ubuntu system, showing the editing of two different text files.

**Top Screenshot:** The terminal window title is "izaan@ubuntu: ~/Music". The file being edited is "izaan.txt", which is marked as [readonly]. The current content of the file is:
 

```
izaan
Batch 20
5A
```

 The status bar at the bottom indicates the file is 3 lines long and 19 characters wide, with the cursor at line 3, column 2. The search scope is set to "All".

**Bottom Screenshot:** The terminal window title is "izaan@ubuntu: ~/Music". The file being edited is "P20-0613.txt", which is marked as [readonly]. The current content of the file is:
 

```
p20-0613
p200613@pwr.nu.edu.pk
```

 The status bar at the bottom indicates the file is 3 lines long and 32 characters wide, with the cursor at line 3, column 0-1. The search scope is set to "All".

```
izaan@ubuntu: ~/Music
izaan@ubuntu:~/Music$ cat izaan.txt P20-0613.txt > Personal_Info.txt
izaan@ubuntu:~/Music$
```

```
izaan@ubuntu: ~/Music
izaan@ubuntu:~/Music$ cat izaan.txt P20-0613.txt > Personal_Info.txt
izaan@ubuntu:~/Music$ cat Personal_Info.txt
izaan
Batch 20
5A
b20-0613
b200613@pwr.nu.edu.pk
izaan@ubuntu:~/Music$
```