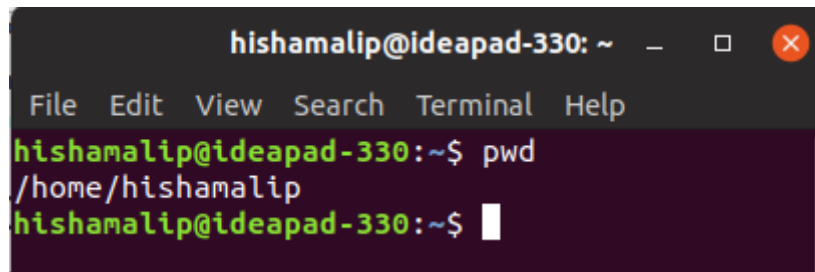


ASSIGNMENT – 3
Practice Questions – Cycle 1 [Answers]

1. Display your current directory.

Command : pwd

Output :

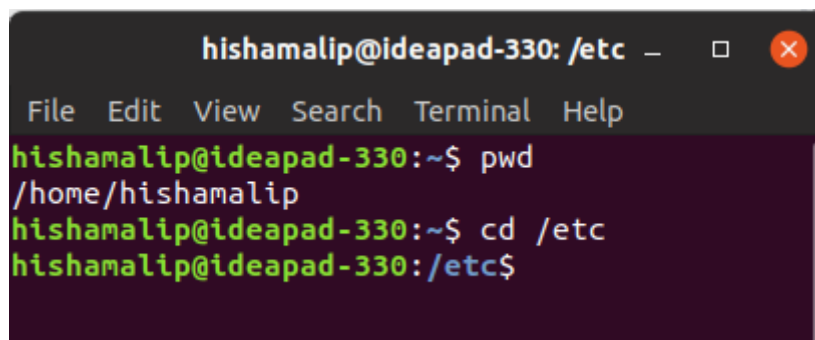
A terminal window titled 'hishamali@ideapad-330: ~' with a menu bar (File, Edit, View, Search, Terminal, Help). The prompt is 'hishamali@ideapad-330:~\$'. The command 'pwd' is entered, and the output is '/home/hishamali'. The prompt then changes to 'hishamali@ideapad-330:~\$' with a cursor.

```
hishamali@ideapad-330: ~
File Edit View Search Terminal Help
hishamali@ideapad-330:~$ pwd
/home/hishamali
hishamali@ideapad-330:~$
```

2. Change to the /etc directory.

Command : cd /etc

Output : (directory changed to /etc directory)

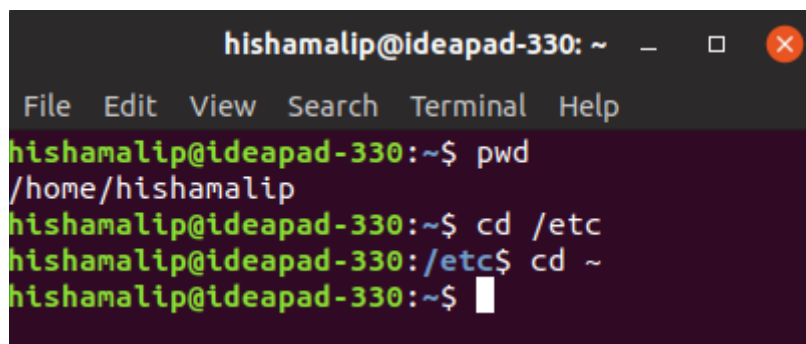
A terminal window titled 'hishamali@ideapad-330: /etc' with a menu bar (File, Edit, View, Search, Terminal, Help). The prompt is 'hishamali@ideapad-330:~\$'. The command 'pwd' is entered, and the output is '/home/hishamali'. Then the command 'cd /etc' is entered, and the prompt changes to 'hishamali@ideapad-330:/etc\$'.

```
hishamali@ideapad-330: /etc
File Edit View Search Terminal Help
hishamali@ideapad-330:~$ pwd
/home/hishamali
hishamali@ideapad-330:~$ cd /etc
hishamali@ideapad-330:/etc$
```

3. Now, change to your home directory using a single command.

Command : cd ~

Output : (directory changed to home directory)

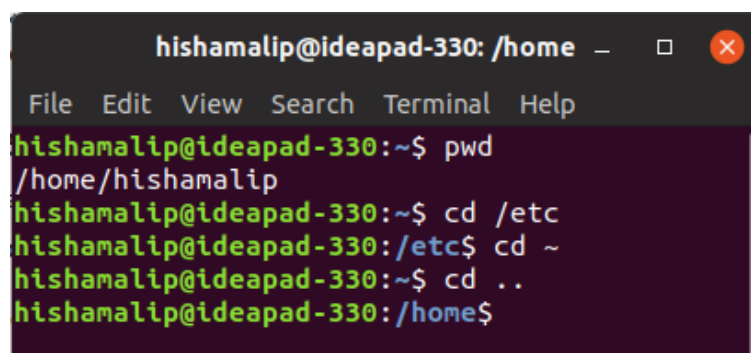
A terminal window titled 'hishamali@ideapad-330: ~' with a menu bar (File, Edit, View, Search, Terminal, Help). The prompt is 'hishamali@ideapad-330:~\$'. The command 'pwd' is entered, and the output is '/home/hishamali'. Then the command 'cd /etc' is entered, and the prompt changes to 'hishamali@ideapad-330:/etc\$'. Finally, the command 'cd ~' is entered, and the prompt changes back to 'hishamali@ideapad-330:~\$' with a cursor.

```
hishamali@ideapad-330: ~
File Edit View Search Terminal Help
hishamali@ideapad-330:~$ pwd
/home/hishamali
hishamali@ideapad-330:~$ cd /etc
hishamali@ideapad-330:/etc$ cd ~
hishamali@ideapad-330:~$
```

4. Change to the parent directory of the current directory.

Command : cd ..

Output : (directory changed to parent directory)

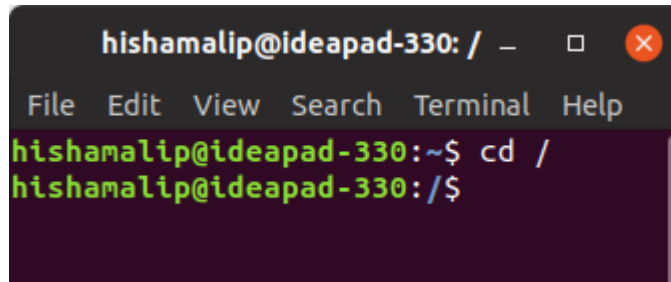
A terminal window titled 'hishamali@ideapad-330: /home' with a menu bar (File, Edit, View, Search, Terminal, Help). The prompt is 'hishamali@ideapad-330:~\$'. The command 'pwd' is entered, and the output is '/home/hishamali'. Then the command 'cd /etc' is entered, and the prompt changes to 'hishamali@ideapad-330:/etc\$'. Then the command 'cd ~' is entered, and the prompt changes back to 'hishamali@ideapad-330:~\$'. Finally, the command 'cd ..' is entered, and the prompt changes to 'hishamali@ideapad-330:/home\$'.

```
hishamali@ideapad-330: /home
File Edit View Search Terminal Help
hishamali@ideapad-330:~$ pwd
/home/hishamali
hishamali@ideapad-330:~$ cd /etc
hishamali@ideapad-330:/etc$ cd ~
hishamali@ideapad-330:~$ cd ..
hishamali@ideapad-330:/home$
```

5. Go to the root directory.

Command : `cd /`

Output : (directory changed to root directory)

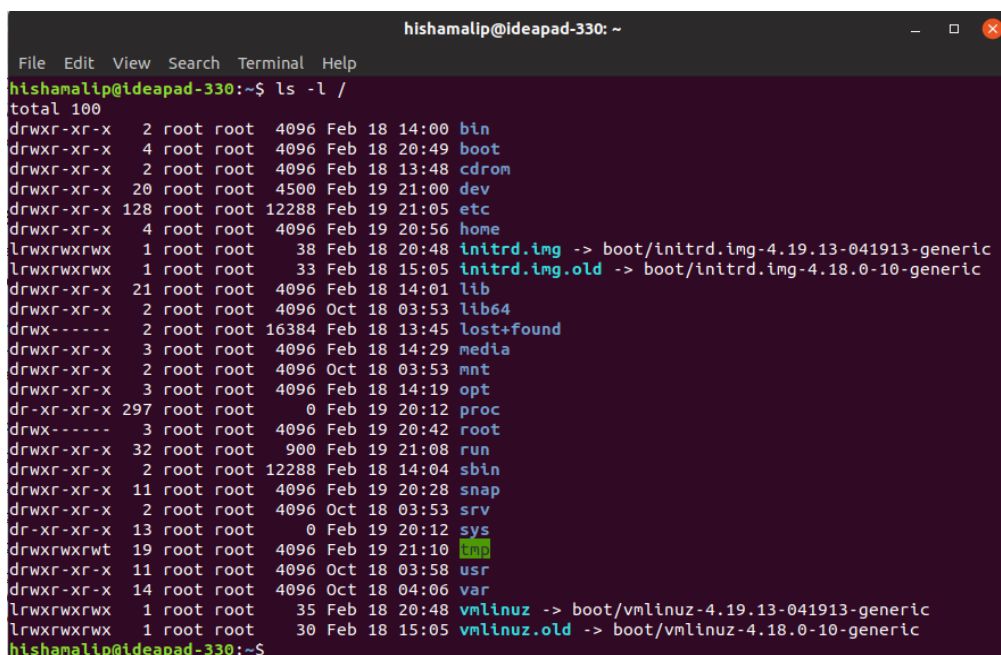


```
hishamalip@ideapad-330: / _ □ ×
File Edit View Search Terminal Help
hishamalip@ideapad-330:~$ cd /
hishamalip@ideapad-330:/$
```

6. Give a long listing of the root directory.

Command : `ls -l /`

Output :

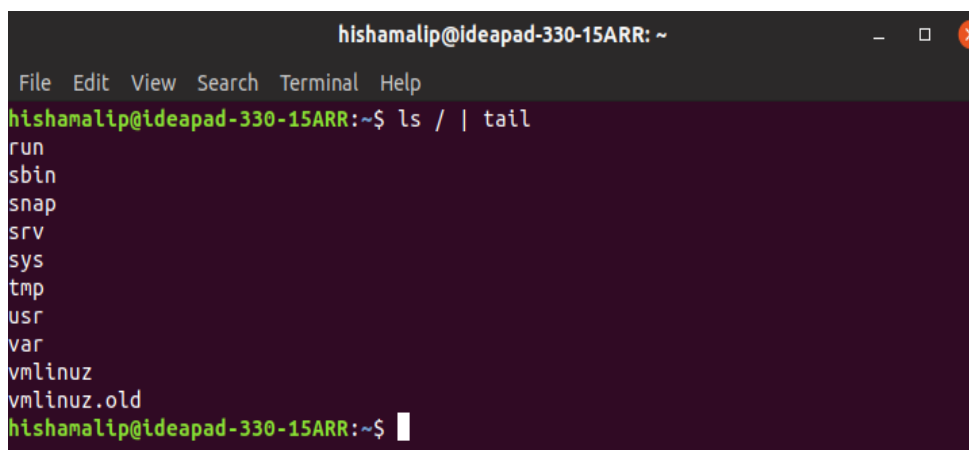


```
hishamalip@ideapad-330: ~
File Edit View Search Terminal Help
hishamalip@ideapad-330:~$ ls -l /
total 100
drwxr-xr-x  2 root root 4096 Feb 18 14:00 bin
drwxr-xr-x  4 root root 4096 Feb 18 20:49 boot
drwxr-xr-x  2 root root 4096 Feb 18 13:48 cdrom
drwxr-xr-x 20 root root 4500 Feb 19 21:00 dev
drwxr-xr-x 128 root root 12288 Feb 19 21:05 etc
drwxr-xr-x  4 root root 4096 Feb 19 20:56 home
lrwxrwxrwx  1 root root   38 Feb 18 20:48 initrd.img -> boot/initrd.img-4.19.13-041913-generic
lrwxrwxrwx  1 root root   33 Feb 18 15:05 initrd.img.old -> boot/initrd.img-4.18.0-10-generic
drwxr-xr-x 21 root root 4096 Feb 18 14:01 lib
drwxr-xr-x  2 root root 4096 Oct 18 03:53 lib64
drwx----- 2 root root 16384 Feb 18 13:45 lost+found
drwxr-xr-x  3 root root 4096 Feb 18 14:29 media
drwxr-xr-x  2 root root 4096 Oct 18 03:53 mnt
drwxr-xr-x  3 root root 4096 Feb 18 14:19 opt
dr-xr-xr-x 297 root root    0 Feb 19 20:12 proc
drwx----- 3 root root 4096 Feb 19 20:42 root
drwxr-xr-x 32 root root  900 Feb 19 21:08 run
drwxr-xr-x  2 root root 12288 Feb 18 14:04 sbin
drwxr-xr-x 11 root root 4096 Feb 19 20:28 snap
drwxr-xr-x  2 root root 4096 Oct 18 03:53 srv
dr-xr-xr-x 13 root root    0 Feb 19 20:12 sys
drwxrwxrwt 19 root root 4096 Feb 19 21:10 tmp
drwxr-xr-x 11 root root 4096 Oct 18 03:58 usr
drwxr-xr-x 14 root root 4096 Oct 18 04:06 var
lrwxrwxrwx  1 root root   35 Feb 18 20:48 vmlinuz -> boot/vmlinuz-4.19.13-041913-generic
lrwxrwxrwx  1 root root   30 Feb 18 15:05 vmlinuz.old -> boot/vmlinuz-4.18.0-10-generic
hishamalip@ideapad-330:~$
```

7. Give a listing of the last 10 files in the root directory.

Command : `ls / | tail`

Output :



```
hishamalip@ideapad-330-15ARR: ~
File Edit View Search Terminal Help
hishamalip@ideapad-330-15ARR:~$ ls / | tail
run
sbin
snap
srv
sys
tmp
usr
var
vmlinuz
vmlinuz.old
hishamalip@ideapad-330-15ARR:~$
```

8. Stay where you are, and list the contents of /etc.

Command : `ls /etc`

Output :

```
File Edit View Search Terminal Help
hishamalip@ideapad-330:~$ ls /etc
acpi                debian_version      hp                   magic.mime           profile.d             sudoers
adduser.conf         default             ifplugd             mailcap               protocols             sysctl.conf
alternatives         deluser.conf        ImageMagick-6       mailcap.order         pulse                 sysctl.d
anacrontab           depmod.d            init                manpath.config        python2.7             systemd
apc.conf             dhcp                initramfs-tools     mime.types            python3.6             terminal
apm                  dictionaries-common inputrc              modules               rc0.d                 thermal
apparmor             dkms                inserv.conf.d       modules-load.d        rc1.d                 thunderbird
apparmor.d           dpkg                iproute2            ntab                  rc2.d                 timezone
appport              drirc               issue                ntools.conf           rc3.d                 timidity
appstream.conf       enacs               issue.net            nanorc                 rc4.d                 tmpfiles.d
apt                  environment         kernel              netplan                rc5.d                 ucf.conf
avahi                 firefoxf           kernel-img.conf     network               rc6.d                 udev
bash.bashrc          fonts              kernel-loops.conf   networkd-dispatcher  rcS.d                 udisks2
bash_completion      fprintd.conf        ldap                 NetworkManager       resolv.conf           ufw
bash_completion.d    fstab               ld.so.cache         NetworkManager       resolvconf            updatedb.conf
bindresvport.blacklist fuse.conf            ld.so.conf           networks              rmt                   update-manager
binfmt.d             fwupd               ld.so.conf.d        newt                   rpc                   update-motd.d
bluetooth            gbi.conf            legal                nsswitch.conf         rsyslog.conf          update-notifier
brlapi.key           gdb                 libao.conf           openal                 sane.d                UPower
brltty               gdm3               libaudit.conf        openvpn                sensors3.conf          usb_modeswitch.conf
brltty.conf          geoclue             libblockdev          opt                    security               usb_modeswitch.d
ca-certificates      ghostscript          libl3                 os-release             selinux               vdpau_wrapper.cfg
ca-certificates.conf glvnd               libpaper.d           PackageKit              sensors.d              vim
calendar             groff               libtinfo              pan.conf               services              vtrgb
chatscripts          group               libtinfo              pan.d                   shadow                 vulkan
console-setup        group              libtinfo              papersize               shadow                 wgetrc
cracklib             grub.d              libtinfo              passwd                 shadow                 whoopsie
cron.d               gshadow             localtime             pcnclia                 shells                 wildmidi
cron.daily            gshadow             logcheck              perl                    skel                   wpa_supplicant
cron.hourly           gss                 logrotate.conf        pki                      speech-dispatcher     X11
cron.monthly          gtk-3.0             hdparm.conf           lsb-release            pm                      xdg
crontab              host.conf           ltrace.conf           machine-id              pnm2ppa.conf          zsh_command_not_found
cron.weekly           hosts               machine-info           magic                    ppp                    subgid
cups                  hosts.allow         machine-info           magic                    ppp                    subuid
cupshelpers           hosts.deny          magic                  magic                    ppp                    subuid
dbus-1                debconf.conf        magic                  magic                    ppp                    subuid
debconf.conf          magic               magic                  magic                    ppp                    subuid
```

9. Create a directory testdir in your home directory.

Command : `mkdir ~/testdir`

Output : (a directory named testdir is created in home directory)

```
hishamalip@ideapad-330: ~
File Edit View Search Terminal Help
hishamalip@ideapad-330:~$ mkdir ~/testdir
hishamalip@ideapad-330:~$ ls
Desktop      examples.desktop  Public      testdir
Documents    Music             snap        Videos
Downloads    Pictures          Templates
hishamalip@ideapad-330:~$
```

10. Change to the /etc directory, stay there and create a directory newdir in your home directory(using a single command).

Command : `cd /etc | mkdir ~/newdir`

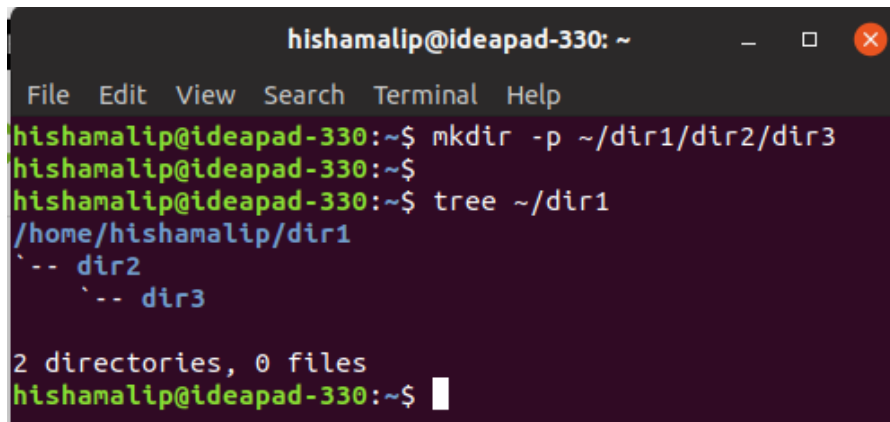
Output : (a directory named testdir is created in home directory from /etc directory)

```
hishamalip@ideapad-330: ~
File Edit View Search Terminal Help
hishamalip@ideapad-330:~$ cd /etc | mkdir ~/newdir
hishamalip@ideapad-330:~$
hishamalip@ideapad-330:~$ ls ~
Desktop Documents Downloads examples.desktop Music newdir
Pictures Public snap Templates testdir Videos
hishamalip@ideapad-330:~$
```

11. Create in one command the directories ~/dir1/dir2/dir3 (dir3 is a subdirectory from dir2, and dir2 is a subdirectory from dir1).

Command : `mkdir -p ~/dir1/dir2/dir3`

Output : (directories are created as dir3 is subdirectory of dir2 and dir2 is subdirectory of dir1)

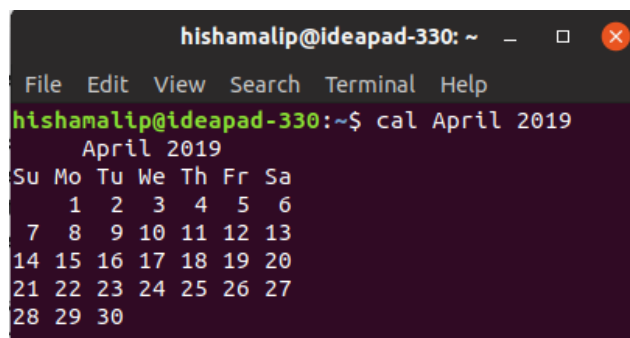


```
hishamalip@ideapad-330: ~  
File Edit View Search Terminal Help  
hishamalip@ideapad-330:~$ mkdir -p ~/dir1/dir2/dir3  
hishamalip@ideapad-330:~$  
hishamalip@ideapad-330:~$ tree ~/dir1  
/home/hishamalip/dir1  
|-- dir2  
    |-- dir3  
  
2 directories, 0 files  
hishamalip@ideapad-330:~$
```

12. Display the calendar for April 2019.

Command : `cal April 2019`

Output :

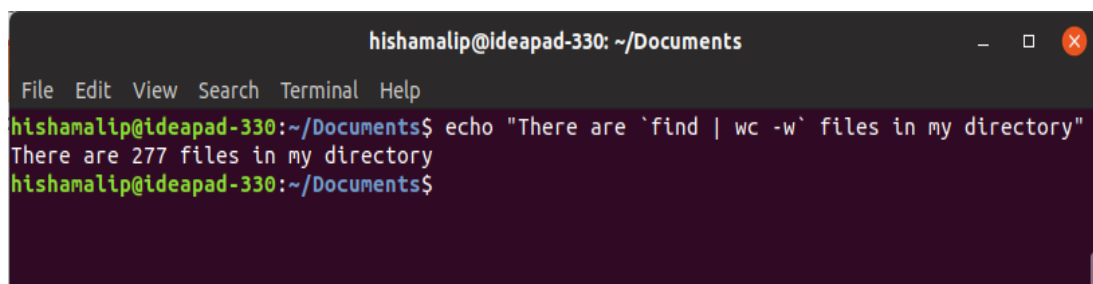


```
hishamalip@ideapad-330: ~  
File Edit View Search Terminal Help  
hishamalip@ideapad-330:~$ cal April 2019  
April 2019  
Su Mo Tu We Th Fr Sa  
    1  2  3  4  5  6  
 7  8  9 10 11 12 13  
14 15 16 17 18 19 20  
21 22 23 24 25 26 27  
28 29 30
```

13. Display that 'There are files in my current directory' . The should be filled with the count of the files.

Command : `echo "There are `find | wc -w` in my directory"`

Output :

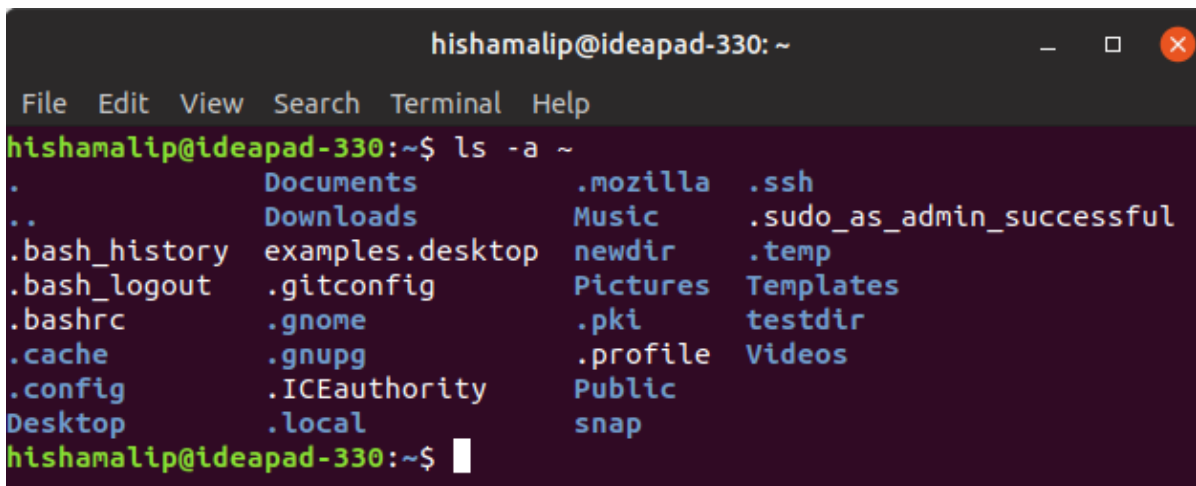


```
hishamalip@ideapad-330: ~/Documents  
File Edit View Search Terminal Help  
hishamalip@ideapad-330:~/Documents$ echo "There are `find | wc -w` files in my directory"  
There are 277 files in my directory  
hishamalip@ideapad-330:~/Documents$
```

14. List all the files (including hidden files) in your home directory.

Command : `ls -a ~`

Output :

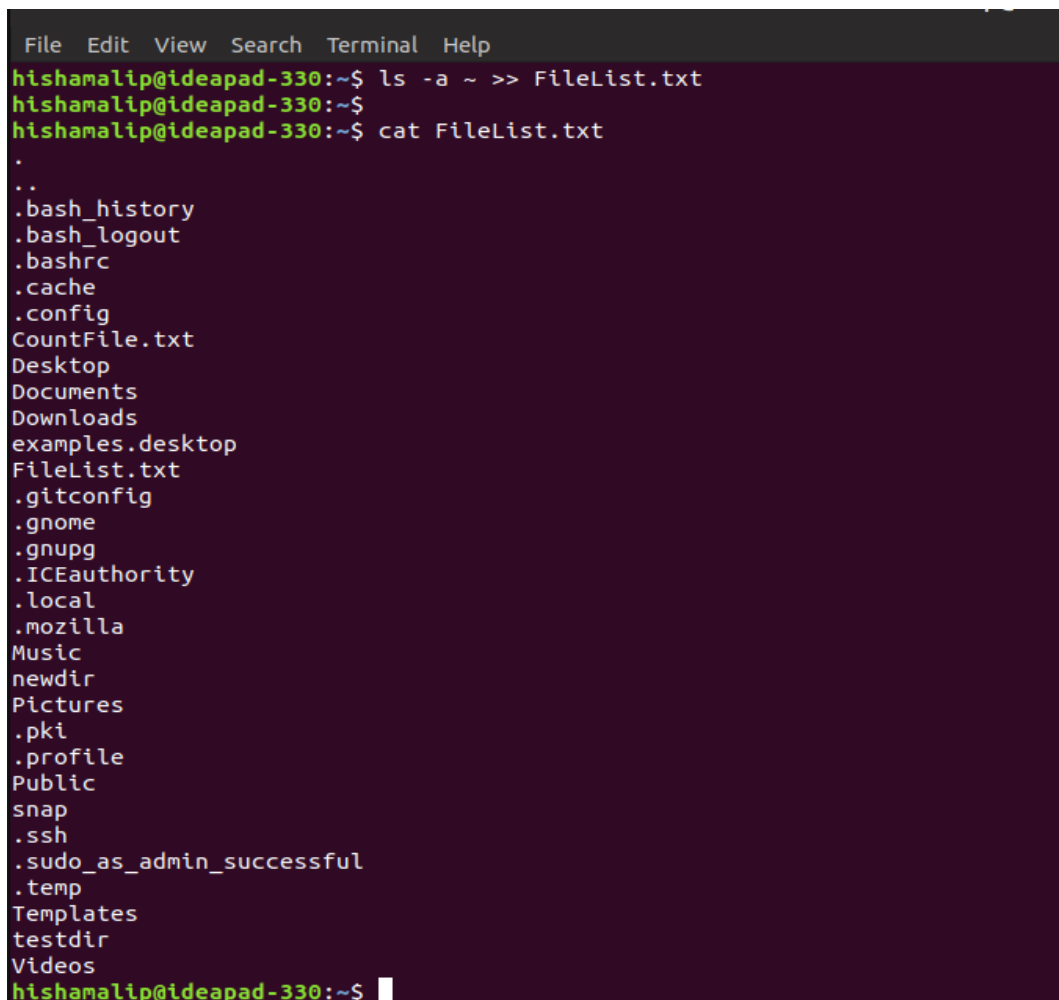


```
hishamali@ideapad-330: ~  
File Edit View Search Terminal Help  
hishamali@ideapad-330:~$ ls -a ~  
.          Documents      .mozilla    .ssh  
..         Downloads      Music       .sudo_as_admin_successful  
.bash_history examples.desktop newdir      .temp  
.bash_logout .gitconfig    Pictures    Templates  
.bashrc     .gnome        .pki       testdir  
.cache      .gnupg        .profile   Videos  
.config     .ICEauthority Public  
Desktop    .local        snap  
hishamali@ideapad-330:~$
```

15. Redirect the output of the above command to a new file FileList.txt

Command : `ls -a ~ >> FileList.txt`

Output : (Output of 'ls -l' is saved into a file named FileList.txt)

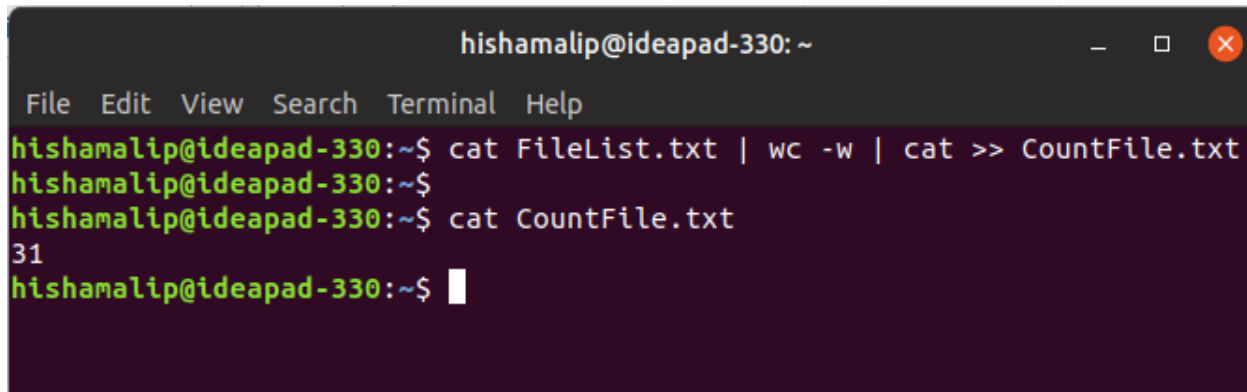


```
File Edit View Search Terminal Help  
hishamali@ideapad-330:~$ ls -a ~ >> FileList.txt  
hishamali@ideapad-330:~$  
hishamali@ideapad-330:~$ cat FileList.txt  
.          Documents      .mozilla    .ssh  
..         Downloads      Music       .sudo_as_admin_successful  
.bash_history examples.desktop newdir      .temp  
.bash_logout .gitconfig    Pictures    Templates  
.bashrc     .gnome        .pki       testdir  
.cache      .gnupg        .profile   Videos  
.config     .ICEauthority Public  
Desktop    .local        snap  
hishamali@ideapad-330:~$
```

16. Redirect the number of lines of FileList.txt to CountFile.txt.

Command : `cat FileList.txt | wc -w | cat >> CountFile.txt`

Output : (Number of lines of FileList.txt is saved into a file named CountFile.txt)

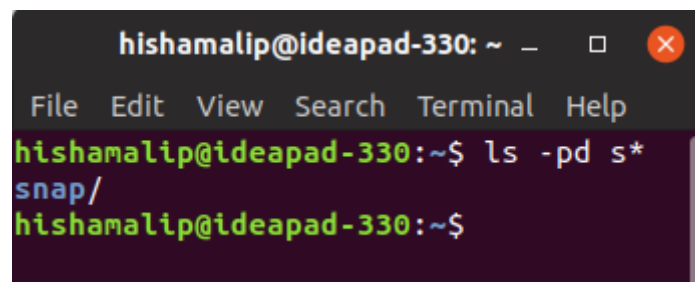


```
hishamalip@ideapad-330: ~  
File Edit View Search Terminal Help  
hishamalip@ideapad-330:~$ cat FileList.txt | wc -w | cat >> CountFile.txt  
hishamalip@ideapad-330:~$  
hishamalip@ideapad-330:~$ cat CountFile.txt  
31  
hishamalip@ideapad-330:~$
```

17. List all the files in your home directory starting with 's'.

Command : `ls -pd s*`

Output :

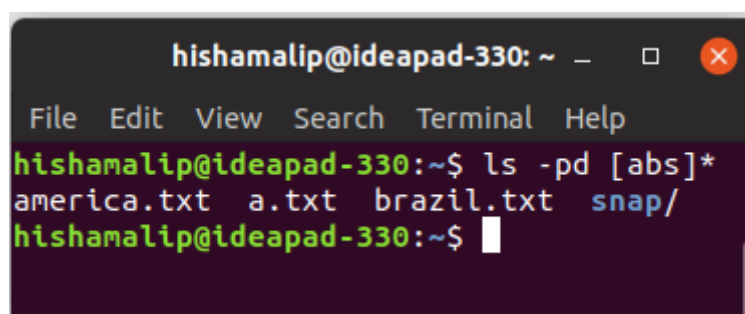


```
hishamalip@ideapad-330: ~  
File Edit View Search Terminal Help  
hishamalip@ideapad-330:~$ ls -pd s*  
snap/  
hishamalip@ideapad-330:~$
```

18. List all the file-names starting with "a", "b" or "s"

Command : `ls -pd [abs]*`

Output :



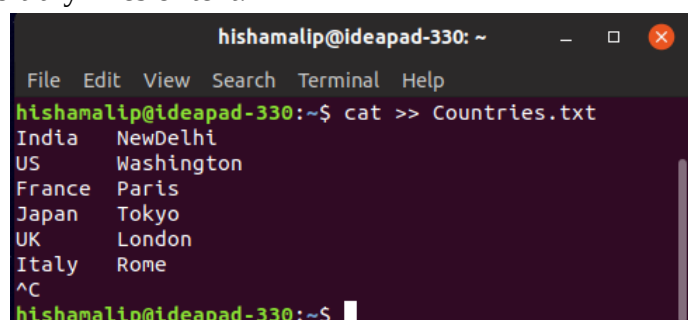
```
hishamalip@ideapad-330: ~  
File Edit View Search Terminal Help  
hishamalip@ideapad-330:~$ ls -pd [abs]*  
america.txt a.txt brazil.txt snap/  
hishamalip@ideapad-330:~$
```

19. Create two files 'Countries.txt', containing country names and their corresponding capital cities and 'Story.txt' contains some arbitrary lines of text.

#To create Countries.txt

Command : `cat >> Countries.txt`

India	NewDelhi
US	Washington
France	Paris
Japan	Tokyo
UK	London
Italy	Rome



```
hishamalip@ideapad-330: ~  
File Edit View Search Terminal Help  
hishamalip@ideapad-330:~$ cat >> Countries.txt  
India NewDelhi  
US Washington  
France Paris  
Japan Tokyo  
UK London  
Italy Rome  
^C  
hishamalip@ideapad-330:~$
```

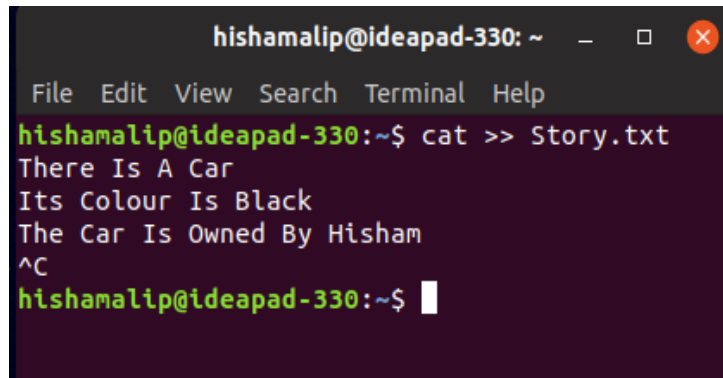
#To create Story.txt

Command : cat >> Story.txt

There Is A Car

Its Colour Is Black

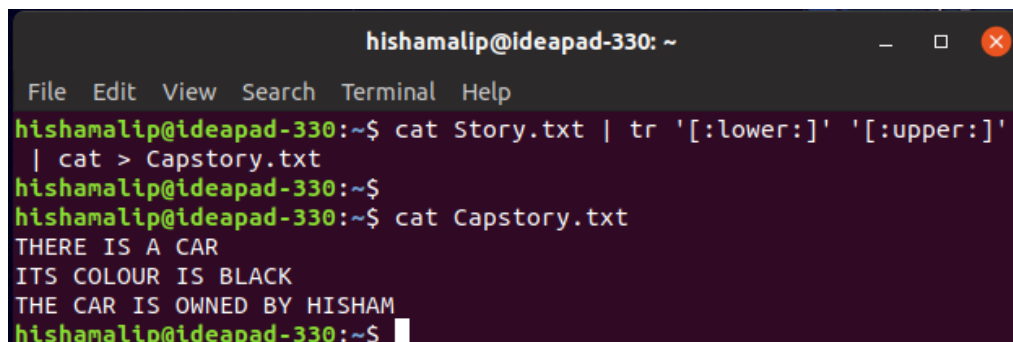
The Car Is Owned By Hisham

A terminal window titled 'hishamalip@ideapad-330: ~' with a menu bar (File, Edit, View, Search, Terminal, Help). The prompt is 'hishamalip@ideapad-330:~\$'. The user enters 'cat >> Story.txt' followed by three lines of text: 'There Is A Car', 'Its Colour Is Black', and 'The Car Is Owned By Hisham'. After pressing Enter, a '^C' is shown, and the prompt returns to 'hishamalip@ideapad-330:~\$'.

20. Convert all lowercase characters from 'Story.txt' to uppercase and store it in a file 'Capstory.txt'.

Command : cat Story.txt | tr '[:lower:]' '[:upper:]' | cat > Capstory.txt

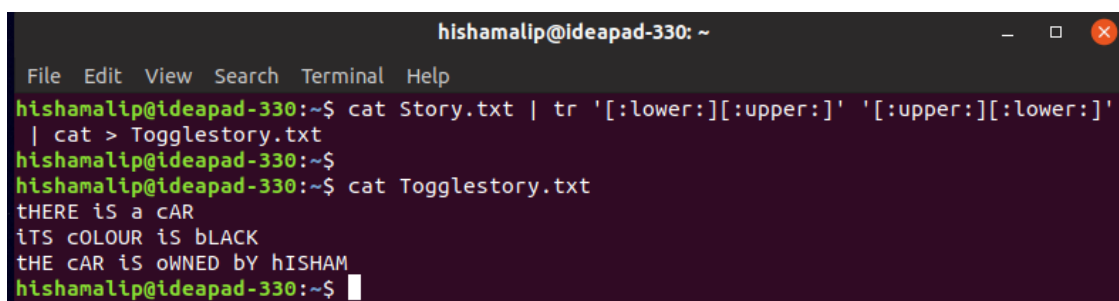
Output : (All lowercase characters from Story.txt is changed into uppercase and stored in a file named Capstory.txt)

A terminal window titled 'hishamalip@ideapad-330: ~' with a menu bar (File, Edit, View, Search, Terminal, Help). The prompt is 'hishamalip@ideapad-330:~\$'. The user enters 'cat Story.txt | tr '[:lower:]' '[:upper:]' | cat > Capstory.txt'. The prompt returns to 'hishamalip@ideapad-330:~\$'. The user then enters 'cat Capstory.txt', and the output is displayed: 'THERE IS A CAR', 'ITS COLOUR IS BLACK', and 'THE CAR IS OWNED BY HISHAM'. The prompt returns to 'hishamalip@ideapad-330:~\$'.

21. Toggle the cases in 'Story.txt' and store it in a file 'Togglestory.txt'.

Command : cat Story.txt | tr '[:lower:][:upper:]' '[:upper:][:lower:]' | cat > Togglestory.txt

Output : (All characters in Story.txt is toggled its case and output is stored in a file named Togglestory.txt)

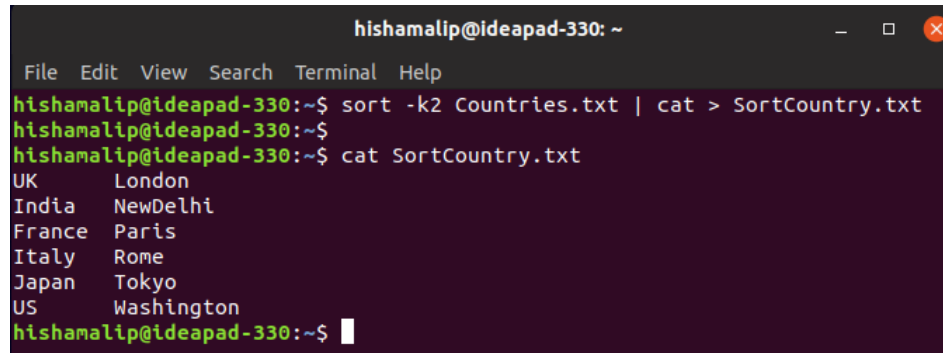
A terminal window titled 'hishamalip@ideapad-330: ~' with a menu bar (File, Edit, View, Search, Terminal, Help). The prompt is 'hishamalip@ideapad-330:~\$'. The user enters 'cat Story.txt | tr '[:lower:][:upper:]' '[:upper:][:lower:]' | cat > Togglestory.txt'. The prompt returns to 'hishamalip@ideapad-330:~\$'. The user then enters 'cat Togglestory.txt', and the output is displayed: 'tHERE is a cAR', 'iTS cOLOUR is bLACK', and 'tHE cAR is oWNED by hISHAM'. The prompt returns to 'hishamalip@ideapad-330:~\$'.

22. Sort the contents of 'Countries.txt' with Capital as the primary sort key and write the sorted output to 'SortCountry.txt'.

Command : `sort -k2 Countries.txt`

#(-k2 will select column two as sorting criteria)

Output : (The content of Countries.txt is sorted with Capitals as primary sort key and output is stored in SortCountry.txt)

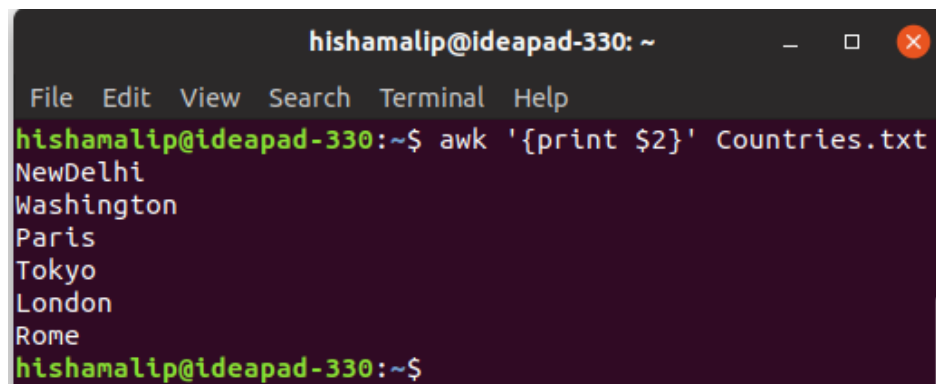


```
hishamali@ideapad-330: ~  
File Edit View Search Terminal Help  
hishamali@ideapad-330:~$ sort -k2 Countries.txt | cat > SortCountry.txt  
hishamali@ideapad-330:~$  
hishamali@ideapad-330:~$ cat SortCountry.txt  
UK      London  
India   NewDelhi  
France  Paris  
Italy   Rome  
Japan   Tokyo  
US      Washington  
hishamali@ideapad-330:~$
```

23. Display only the capital cities from 'Countries.txt'.

Command : `awk '{print $2}' Countries.txt` (mawk select a particular column)

Output :

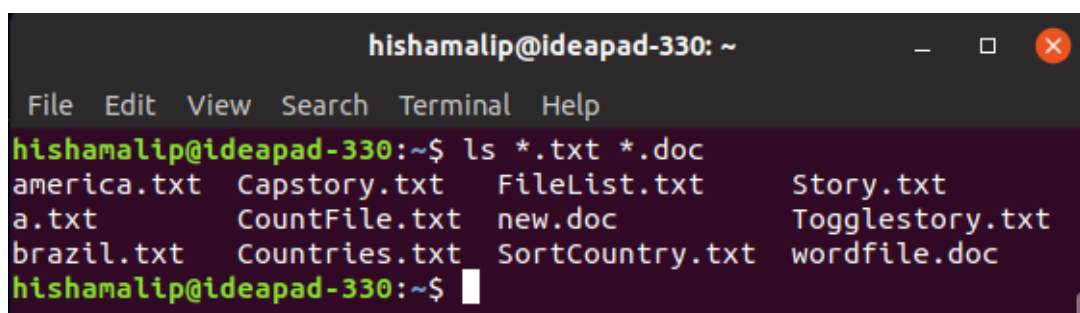


```
hishamali@ideapad-330: ~  
File Edit View Search Terminal Help  
hishamali@ideapad-330:~$ awk '{print $2}' Countries.txt  
NewDelhi  
Washington  
Paris  
Tokyo  
London  
Rome  
hishamali@ideapad-330:~$
```

24. Locate all '.txt' and '.doc' files in the current directory .

Command : `ls *.txt *.doc`

Output :

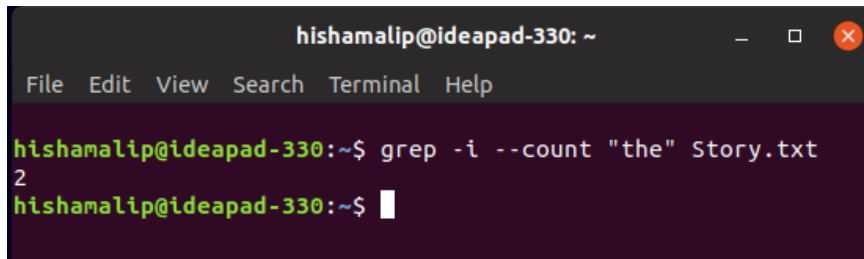


```
hishamali@ideapad-330: ~  
File Edit View Search Terminal Help  
hishamali@ideapad-330:~$ ls *.txt *.doc  
america.txt  Capstory.txt  FileList.txt  Story.txt  
a.txt        CountFile.txt new.doc        Togglestory.txt  
brazil.txt  Countries.txt SortCountry.txt wordfile.doc  
hishamali@ideapad-330:~$
```


25. Count the number of occurrence of 'the' in 'Story.txt'

Command : `grep -i --count "the" Story.txt` (-i will ignore case and --count will count the occurrence of specified string)

Output : ('the' is occurring 2 times in Story.txt)

A screenshot of a terminal window titled 'hishamalip@ideapad-330: ~'. The window has a menu bar with 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The terminal shows a command prompt 'hishamalip@ideapad-330:~\$' followed by the command 'grep -i --count "the" Story.txt'. The output '2' is displayed on the next line. The prompt 'hishamalip@ideapad-330:~\$' is shown again on the third line with a cursor.

Result :

The usage of certain bash commands are understood and output is obtained.

Submitted by :

Hisham Ali P
Roll No : 67
S4 CSE