

FOSS LAB PRACTICE CYCLE 1

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Roll No : 59
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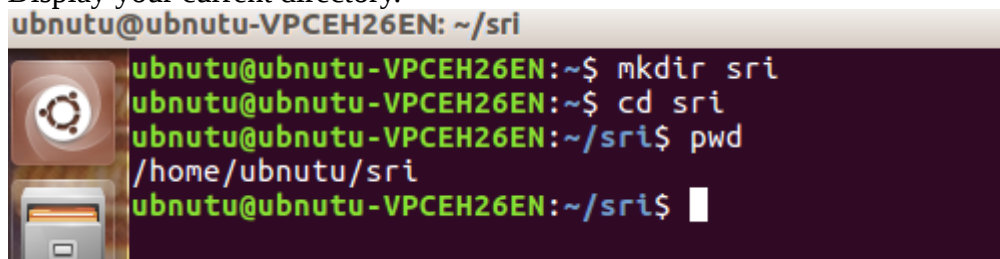
Experiment No : 4

AIM

Write necessary linux commands for the following. Prepare a report including the question, and screenshot of the command along with the output for each command.

Questions :

1. Display your current directory.



```
ubnutu@ubnutu-VPCEH26EN: ~/sri
```

```
ubnutu@ubnutu-VPCEH26EN:~$ mkdir sri
ubnutu@ubnutu-VPCEH26EN:~$ cd sri
ubnutu@ubnutu-VPCEH26EN:~/sri$ pwd
/home/ubnutu/sri
ubnutu@ubnutu-VPCEH26EN:~/sri$
```

(Use : pwd)

2. Change to the /etc directory.

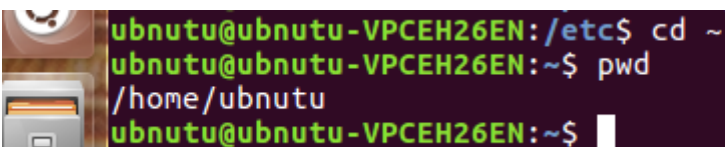


```
ubnutu@ubnutu-VPCEH26EN: /etc
```

```
ubnutu@ubnutu-VPCEH26EN:~$ cd sri
ubnutu@ubnutu-VPCEH26EN:~/sri$ cd /etc
ubnutu@ubnutu-VPCEH26EN:/etc$
```

(Use : cd /etc)

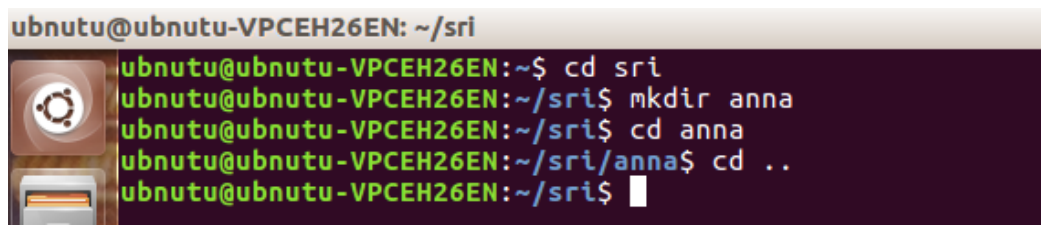
3. Now, change to your home directory using a single command.



```
ubnutu@ubnutu-VPCEH26EN:/etc$ cd ~
ubnutu@ubnutu-VPCEH26EN:~$ pwd
/home/ubnutu
ubnutu@ubnutu-VPCEH26EN:~$
```

(Use : cd ~)

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

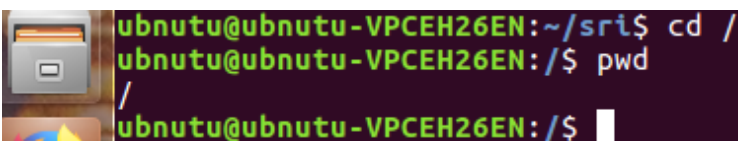


```
ubnutu@ubnutu-VPCEH26EN: ~/sri
```

```
ubnutu@ubnutu-VPCEH26EN:~$ cd sri
ubnutu@ubnutu-VPCEH26EN:~/sri$ mkdir anna
ubnutu@ubnutu-VPCEH26EN:~/sri$ cd anna
ubnutu@ubnutu-VPCEH26EN:~/sri/anna$ cd ..
ubnutu@ubnutu-VPCEH26EN:~/sri$
```

(Use : cd ..)

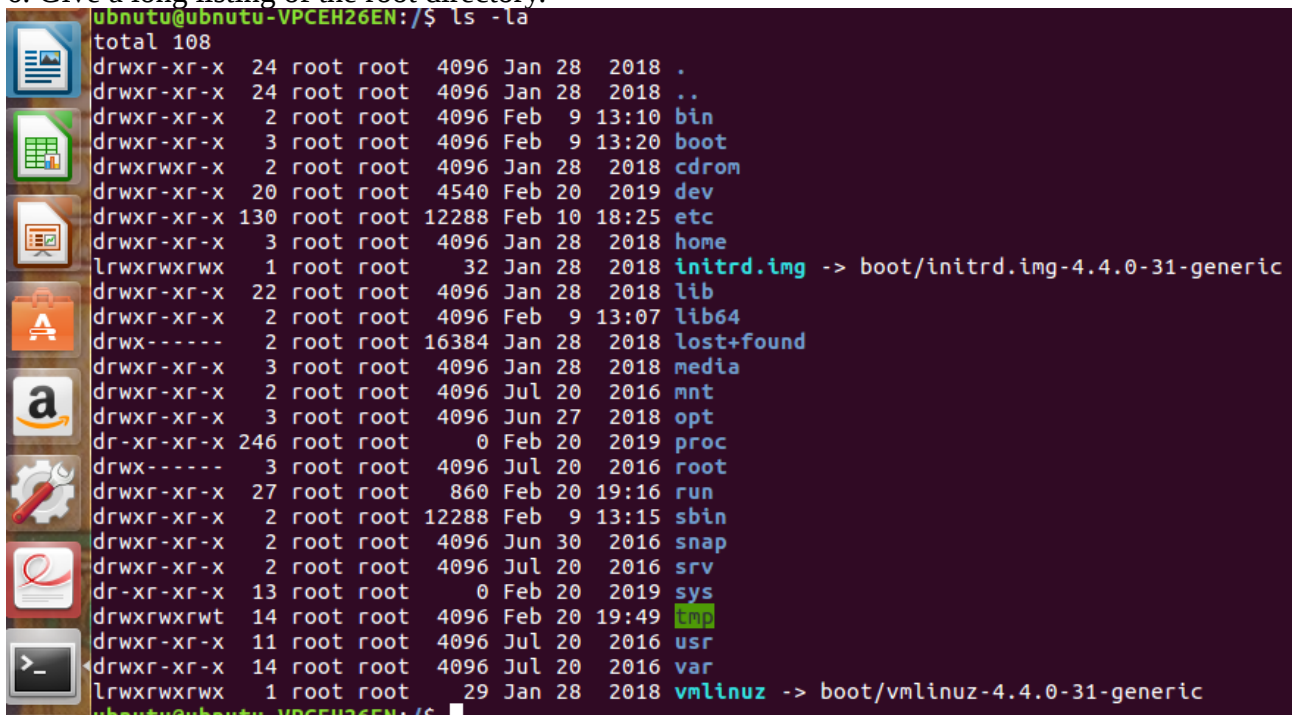
5. Go to the root directory.



```
ubnutu@ubnutu-VPCEH26EN:~/sri$ cd /
ubnutu@ubnutu-VPCEH26EN:/$ pwd
/
ubnutu@ubnutu-VPCEH26EN:/$
```

(Use : cd /)

6. Give a long listing of the root directory.



```
ubnutu@ubnutu-VPCEH26EN:/$ ls -la
total 108
drwxr-xr-x 24 root root 4096 Jan 28 2018 .
drwxr-xr-x 24 root root 4096 Jan 28 2018 ..
drwxr-xr-x 2 root root 4096 Feb 9 13:10 bin
drwxr-xr-x 3 root root 4096 Feb 9 13:20 boot
drwxrwxr-x 2 root root 4096 Jan 28 2018 cdrom
drwxr-xr-x 20 root root 4540 Feb 20 2019 dev
drwxr-xr-x 130 root root 12288 Feb 10 18:25 etc
drwxr-xr-x 3 root root 4096 Jan 28 2018 home
lrwxrwxrwx 1 root root 32 Jan 28 2018 initrd.img -> boot/initrd.img-4.4.0-31-generic
drwxr-xr-x 22 root root 4096 Jan 28 2018 lib
drwxr-xr-x 2 root root 4096 Feb 9 13:07 lib64
drwx----- 2 root root 16384 Jan 28 2018 lost+found
drwxr-xr-x 3 root root 4096 Jan 28 2018 media
drwxr-xr-x 2 root root 4096 Jul 20 2016 mnt
drwxr-xr-x 3 root root 4096 Jun 27 2018 opt
dr-xr-xr-x 246 root root 0 Feb 20 2019 proc
drwx----- 3 root root 4096 Jul 20 2016 root
drwxr-xr-x 27 root root 860 Feb 20 19:16 run
drwxr-xr-x 2 root root 12288 Feb 9 13:15 sbin
drwxr-xr-x 2 root root 4096 Jun 30 2016 snap
drwxr-xr-x 2 root root 4096 Jul 20 2016 srv
dr-xr-xr-x 13 root root 0 Feb 20 2019 sys
drwxrwxrwt 14 root root 4096 Feb 20 19:49 tmp
drwxr-xr-x 11 root root 4096 Jul 20 2016 usr
drwxr-xr-x 14 root root 4096 Jul 20 2016 var
lrwxrwxrwx 1 root root 29 Jan 28 2018 vmlinuz -> boot/vmlinuz-4.4.0-31-generic
ubnutu@ubnutu-VPCEH26EN:/$
```

(Use : `ls -la`)

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



```
ubnutu@ubnutu-VPCEH26EN: /
ubnutu@ubnutu-VPCEH26EN:~$ cd /
ubnutu@ubnutu-VPCEH26EN:/$ ls
bin  cdrom  etc  initrd.img  lib64  media  opt  root  sbin  srv  tmp  var
boot  dev  home  lib  lost+found  mnt  proc  run  snap  sys  usr  vmlinuz
ubnutu@ubnutu-VPCEH26EN:/$ ls / | tail
root
run
sbin
snap
srv
sys
tmp
usr
var
vmlinuz
ubnutu@ubnutu-VPCEH26EN:/$
```

(Use : `ls / | tail`)

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

```
ubnutu@ubnutu-VPCEH26EN: /  
var  
vmlinuz  
ubnutu@ubnutu-VPCEH26EN:/$ ls /etc  
acpi                dbus-1              hosts                logrotate.d         profile             ssl  
adduser.conf        dconf               hosts.allow          lib-release          profile.d            subgid  
alternatives         debconf.conf        hosts.deny           ltrace.conf         protocols           subuid  
anacrontab           debian_version      hp                  machine-id           pulse               sudoers  
apc.conf             default             ifplugd             magic                python               subuid-  
apm                  deluser.conf        iftab               magic.mime            python2.7            sudoers  
apparmor             depmod.d            init                 ImageMagick-6        python3              sysctl.conf  
apparmor.d           dhcp                initramfs-tools     nailcap              python3.5            sysctl.d  
appstream.conf       dictionaries-common inittab              nanopath.config      rc0.d                systemd  
apt                  dnsmasq.d           insmod               mine.types            rc1.d                terminfo  
aptdaemon            doc-base            insmod               mke2fs.conf          rc2.d                termio  
at-spi2              dpkg                insmod               noprobe.d            rc3.d                thermald  
avahi                 drirc               insmod               modules               rc4.d                thunderbird  
bash.bashrc          emacs               insmod               modules-load.d        rc5.d                timezone  
bash_completion      environment          iproute2            mtab                  rc6.d                tmpfiles.d  
bash_completion.d    firewalld           issue                mtools.conf          rc.local             ucf.conf  
bindresvport.blacklist fonts                issue.net            nanorc                rc5.d                udev  
binfmt.d             fstab               kernel              network               resolv.conf          udisks2  
bluetooth            fuse.conf           kernel-loop.conf    NetworkManager       rmt                  ufw  
brlapi.key           fwupd.conf          kernel-loops.conf   networks              rpc                  updatedb.conf  
brltty               gconf               ld.so.cache          nsswitch.conf         rsyslog.conf         update-manager  
ca-certificates       ghostscript          ld.so.conf           os-release            rsyslog.d            update-notd.d  
ca-certificates.conf dpkg-old             ld.so.conf.d         os-release            sane.d               update-notifier  
calendar             gnome-app-install    legal                pan.conf              saned                 UPower  
chatscripts           group               libao.conf           paperize              security             upstart-xsessions  
compizconfig          grub.d              libaudit.conf        passwd                 selinux              usb_modeswitch.conf  
console-setup         gshadown            libl3                pcscid                 sensors3.conf        vln  
cron.d                gss                  libpaper.d           perl                   sensors.d             vtrgb  
cron.hourly           gtk-2.0              libsecret             perl                    sgml                 wpa_supplicant  
cron.monthly          gtk-3.0              libt1                 perl                    shadow               X11  
cron.weekly           hdpam.conf           libt1                 perl                    shadow               xdg  
cups                  host.conf            libt1                 perl                    shells                xnl  
cupshelpers           hostname             logrotate.conf       pnm2ppa.conf          signond.conf         zsh_command_not_found  
ubnutu@ubnutu-VPCEH26EN:/$
```

(Use: ls /etc)

9. Create a directory testdir in your home directory.

```
ubnutu@ubnutu-VPCEH26EN: /  
ubnutu@ubnutu-VPCEH26EN:/$ mkdir ~/testdir  
ubnutu@ubnutu-VPCEH26EN:/$ ls ~  
a1.c                examples.desktop    merge.c.save        r.c                  search.c             symlink             tree4.c  
a2.c                cirque1.c           mozilla.pdf          rw2.c                sort.c               Templates           tree5.c  
anna                cirque.c            file                 rw3.c                sort.c.save          test                tree.c  
anu                 c.py               file0               rw4.c                sort.c.save.1        test1              u.c  
a.out               deen               file1               rw4.c.save           sort.c.save.2        test2              v1_051523630.png  
aparna.pdf          Desktop            foss.pdf            poly1.c              sri                  stackarr.c          there                vivo  
ASgn Practice cyc 1.odt dir1               hello               poly.c               s                    string.c            thread1.c           well  
bst.c               doc 1 network.pdf  hello1              process.c             sau1                 sub.c               thread2.c           tree1.c  
c1.py              doc 2network.pdf   how.c               process.c.save        Public               sub.c.save          tree2.c             tree3.c  
c1q1.c             Documents          ifconfig asgn.odt  projects              quearr.c             s.c                sym  
c1q3.c             Downloads          lin                 quearr.c             s.c                sym  
c2.py              ee  
ubnutu@ubnutu-VPCEH26EN:/$
```

(Use : mkdir ~/testdir)

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

```
ubnutu@ubnutu-VPCEH26EN: ~  
ubnutu@ubnutu-VPCEH26EN:/$ cd /etc | mkdir ~/newdir  
ubnutu@ubnutu-VPCEH26EN:/$ cd ~  
ubnutu@ubnutu-VPCEH26EN:~$ ls  
a1.c                examples.desktop    merge.c.save        r.c                  search.c             symlink             tree4.c  
a2.c                cirque1.c           mozilla.pdf          rw2.c                sort.c               Templates           tree5.c  
anna                cirque.c            file                 rw3.c                sort.c.save          test                tree.c  
anu                 c.py               file0               rw4.c                sort.c.save.1        test1              u.c  
a.out               deen               file1               rw4.c.save           sort.c.save.2        test2              v1_051523630.png  
aparna.pdf          Desktop            foss.pdf            poly1.c              sri                  stackarr.c          there                vivo  
ASgn Practice cyc 1.odt dir1               hello               poly.c               s                    string.c            thread1.c           well  
bst.c               doc 1 network.pdf  hello1              process.c             sau1                 sub.c               thread2.c           tree1.c  
c1.py              doc 2network.pdf   how.c               process.c.save        Public               sub.c.save          tree2.c             tree3.c  
c1q1.c             Documents          ifconfig asgn.odt  projects              quearr.c             s.c                sym  
c1q3.c             Downloads          lin                 quearr.c             s.c                sym  
c2.py              ee  
ubnutu@ubnutu-VPCEH26EN:~$
```

(Use : cd /etc | mkdir ~/newdir)

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

```
ubnutu@ubnutu-VPCEH26EN: ~
ubnutu@ubnutu-VPCEH26EN:~$ mkdir -p ~/dir1/dir2/dir3
ubnutu@ubnutu-VPCEH26EN:~$ ls
a1.c      cirque1.c      examples.desktop  merge.c.save    r.c      search.c      symlink      tree4.c
a2.c      cirque.c       file              mozilla.pdf     rw2.c     sort.c        Templates   tree5.c
anna      c.py           file0             Music           rw3.c     sort.c.save   test        tree.c
anu       deen          file1            newdir         rw4.c     sort.c.save.1 test1       u.c
a.out     Desktop       file.txt         Pictures       rw4.c.save sort.c.save.2 test2       v1_051523630.png
aparna.pdf doc 1 network.pdf foss.pdf        poly1.c     rw5.c     stackarr.c  testdir      Videos
ASgn Practice cyc 1.odt doc 2network.pdf hello          process.c   s          str.c       thread1.c   vivo
bst.c     doc 3.odt     how.c           hello1        process.c.save s1.c.save  string.c    thread2.c   well
c1.py     Documents    ifconfig asgn.odt lin           projects   sau        sub.c       tree1.c
c1q1.c    Downloads    lin            quearr.c     s.c        sym         sub.c.save tree2.c
c1q3.c    ee           tree1.c        tree2.c      tree3.c
ubnutu@ubnutu-VPCEH26EN:~$ ls dir1
dir2
ubnutu@ubnutu-VPCEH26EN:~$ ls dir1/dir2
dir3
ubnutu@ubnutu-VPCEH26EN:~$
```

(Use : mkdir -p ~/dir1/dir2/dir3)

12. Display the calendar for April 2019.

```
ubnutu@ubnutu-VPCEH26EN: ~
ubnutu@ubnutu-VPCEH26EN:~$ 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
ubnutu@ubnutu-VPCEH26EN:~$
```

(Use : cal April 2019)

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

```
ubnutu@ubnutu-VPCEH26EN: ~
ubnutu@ubnutu-VPCEH26EN:~$ echo There are $(ls |wc -l) files in my current directory
There are 92 files in my current directory
ubnutu@ubnutu-VPCEH26EN:~$
```

(Use : echo There are \$(ls |wc -l) files in my current directory)

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

```
ubnutu@ubnutu-VPCEH26EN: ~
ubnutu@ubnutu-VPCEH26EN:~$ ls -a ~
.      .c.py           .gphoto          .profile         s.c              there
..     .dbus          hello            projects        search.c         thread1.c
a1.c   deen           hello1           Public          sort.c           thread2.c
a2.c   Desktop       how.c            quearr.c       sort.c.save     .thread2.c.swp
anna   dir1           .ICEauthority    r.c            sort.c.save.1   .thunderbird
anu    .dmrc         ifconfig asgn.odt .r.c.swp       sort.c.save.2   tree1.c
a.out  doc 1 network.pdf .local          .rw1.c.swp     .sort.c.swp     tree2.c
aparna.pdf doc 2network.pdf .lock.ASgn Practice cyc 1.odt# .rw2.c.swp     tree3.c
ASgn Practice cyc 1.odt doc 3.odt        merge.c.save   .rw3.c.swp     tree4.c
.bash_history Documents      mozilla.pdf    merge.c.swp    rw4.c           tree5.c
.bash_logout Downloads     .mozilla       .merge.c.swp  rw4.c.save     tree.c
.bashrc  ee            examples.desktop .mozilla       sub.c           u.c
bst.c    c1.py         file            Music          sub.c.save     v1_051523630.png
c1.py   c1q1.c       file0           newdir         .sub.c.swp     Videos
c1q1.c  c1q3.c       file1          .open.c.swp   .sudo_as_admin_successful .viminfo
c2.py   .cache       foss.pdf       poly1.c       sym            vivo
.cirque1.c .cirque1.c.swp .gconf         process.c     symlink        well
.cirque.c .config      .git           process.c.save s              Templates      .Xauthority
.config  gnupg        .gnupg         .process.c.save sau1           test           .xsession-errors
          .gnupg        .gnupg         .process.c.save sau1           test2          .xsession-errors.old
          .gnupg        .gnupg         .process.c.save sau1           testdir
```

(Use : ls -a ~)

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

```
ubnutu@ubnutu-VPCEH26EN:~$ ls -a ~ > FileList.txt
ubnutu@ubnutu-VPCEH26EN:~$ cat FileList.txt
.
..
a1.c
a2.c
anna
anu
a.out
aparna.pdf
ASgn Practice cyc 1.odt
.bash_history
.bash_logout
.bashrc
bst.c
c1.py
c1q1.c
c1q3.c
c2.py
.cache
cirque1.c
.cirque1.c.swp
cirque.c
.config
c.py
.dbus
deen
Desktop
dir1
.dnrc
doc 1 network.pdf
doc 2network.pdf
doc 3.odt
Documents
Downloads
ee
examples.desktop
file
file0
file1
FileList.txt
file.txt
```

(Use : (above command) > Filename)

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

```
ubnutu@ubnutu-VPCEH26EN: ~
ubnutu@ubnutu-VPCEH26EN:~$ wc -l FileList.txt
131 FileList.txt
ubnutu@ubnutu-VPCEH26EN:~$
```

(Use : wc -l Filename)

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

```
ubnutu@ubnutu-VPCEH26EN: ~
ubnutu@ubnutu-VPCEH26EN:~$ ls ~ | grep ^s
s
s1.c.save
sau
sau1
s.c
search.c
sort.c
sort.c.save
sort.c.save.1
sort.c.save.2
sri
stackarr.c
str.c
string.c
sub.c
sub.c.save
sym
symlink
ubnutu@ubnutu-VPCEH26EN:~$
```

(Use : ls ~ | grep ^s)

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

```
ubnutu@ubnutu-VPCEH26EN: ~  
ubnutu@ubnutu-VPCEH26EN:~$ ls [abs]*  
a1.c  anu  aparna.pdf  s  sau1  search.c  sort.c.save  sort.c.save.2  str.c  sub.c  
a2.c  a.out  bst.c  s1.c.save  s.c  sort.c  sort.c.save.1  stackarr.c  string.c  sub.c.save  
anna:  
sau:  
sri:  
anna dir1 file hello  
sym:  
test  
symlink:  
s test  
ubnutu@ubnutu-VPCEH26EN:~$
```

(Use : ls [abs]*)

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

```
ubnutu@ubnutu-VPCEH26EN: ~  
ubnutu@ubnutu-VPCEH26EN:~$ nano Countries.txt  
ubnutu@ubnutu-VPCEH26EN:~$ cat Countries.txt  
India NewDelhi  
China Beijing  
Italy Rome  
Greece Athens  
Qatar Doha  
Germany Berlin  
Russia Moscow  
Morocco Rabat  
Nepal Kathmandu  
Egypt Cairo  
ubnutu@ubnutu-VPCEH26EN:~$ nano Story.txt  
ubnutu@ubnutu-VPCEH26EN:~$ cat Story.txt  
It was lightning . We all were scared.  
There comes .. somebody.  
MY FATHER. Silence turned into a laughter.  
ubnutu@ubnutu-VPCEH26EN:~$
```

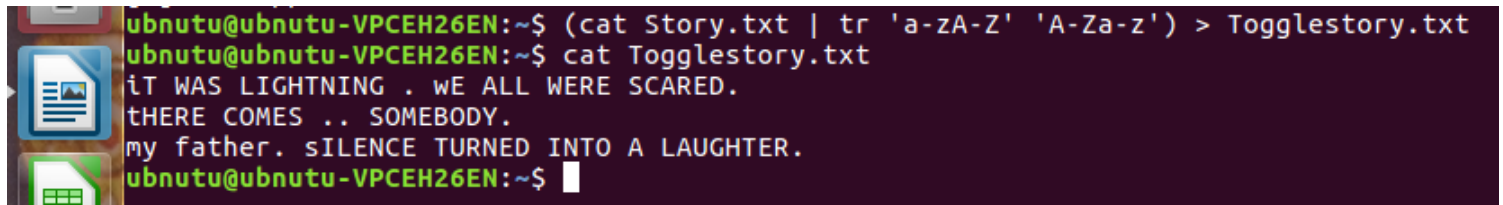
(Use : nano filename)

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

```
ubnutu@ubnutu-VPCEH26EN: ~  
ubnutu@ubnutu-VPCEH26EN:~$ (tr a-z A-Z < Story.txt) > Capstory.txt  
ubnutu@ubnutu-VPCEH26EN:~$ cat Capstory.txt  
IT WAS LIGHTNING . WE ALL WERE SCARED.  
THERE COMES .. SOMEBODY.  
MY FATHER. SILENCE TURNED INTO A LAUGHTER.  
ubnutu@ubnutu-VPCEH26EN:~$
```

(Use : tr a-z A-Z < Story.txt) > Capstory.txt)

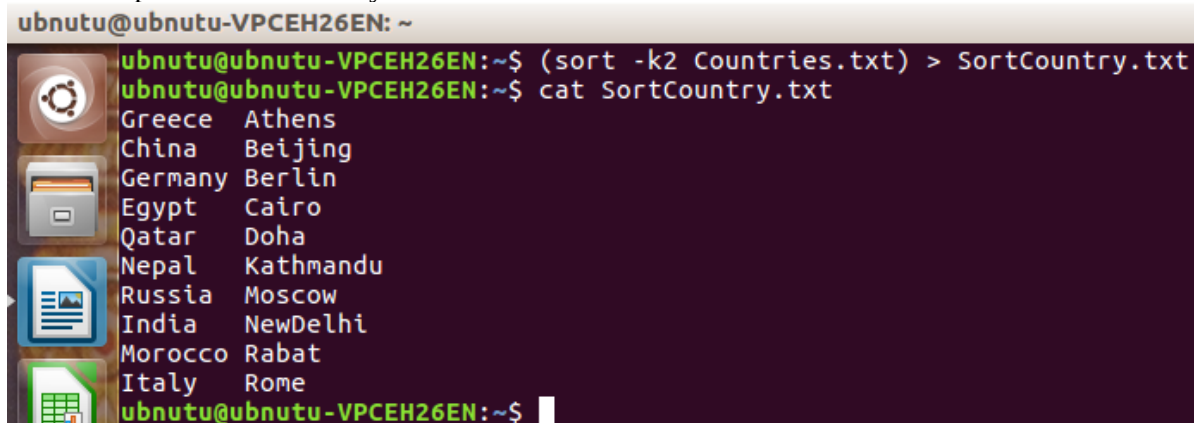
21. Toggle the cases in 'Story.txt' and store it in a file 'Togglestory.txt'.



```
ubnutu@ubnutu-VPCEH26EN:~$ (cat Story.txt | tr 'a-zA-Z' 'A-Za-z') > Togglestory.txt
ubnutu@ubnutu-VPCEH26EN:~$ cat Togglestory.txt
IT WAS LIGHTNING . WE ALL WERE SCARED.
THERE COMES .. SOMEBODY.
my father. SILENCE TURNED INTO A LAUGHTER.
ubnutu@ubnutu-VPCEH26EN:~$
```

(Use : (cat Story.txt | tr 'a-zA-Z' 'A-Za-z') > Togglestory.txt)

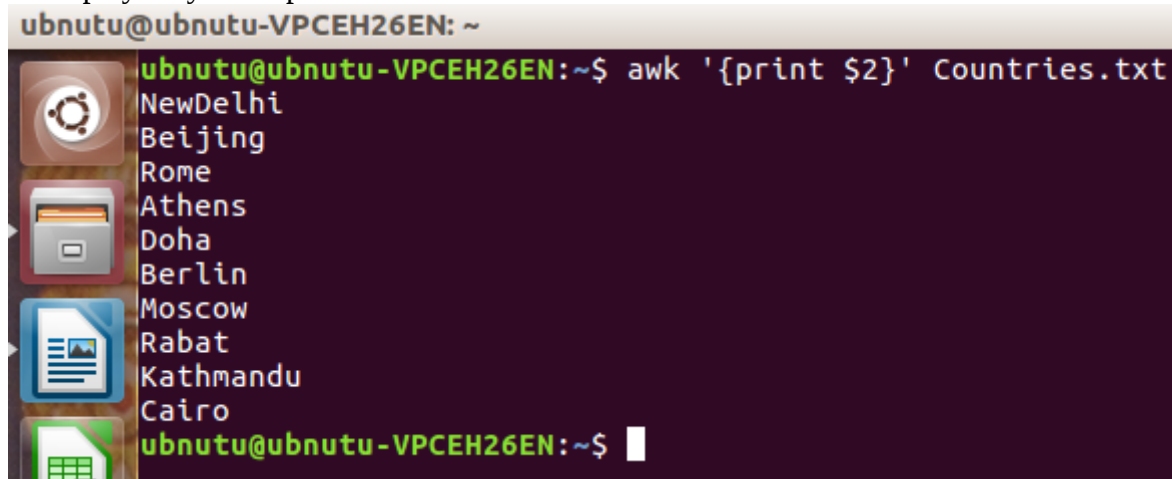
22. Sort the contents of 'Countries.txt' with Capital as the primary sort key and write the sorted output to 'SortCountry.txt'.



```
ubnutu@ubnutu-VPCEH26EN: ~
ubnutu@ubnutu-VPCEH26EN:~$ (sort -k2 Countries.txt) > SortCountry.txt
ubnutu@ubnutu-VPCEH26EN:~$ cat SortCountry.txt
Greece Athens
China Beijing
Germany Berlin
Egypt Cairo
Qatar Doha
Nepal Kathmandu
Russia Moscow
India NewDelhi
Morocco Rabat
Italy Rome
ubnutu@ubnutu-VPCEH26EN:~$
```

(Use : (sort -k2 Countries.txt) > SortCountry.txt)

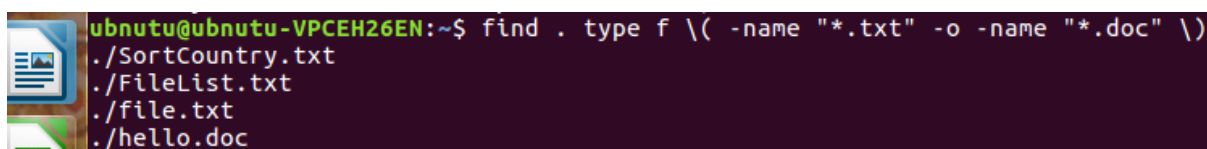
23. Display only the capital cities from 'Countries.txt'.



```
ubnutu@ubnutu-VPCEH26EN: ~
ubnutu@ubnutu-VPCEH26EN:~$ awk '{print $2}' Countries.txt
NewDelhi
Beijing
Rome
Athens
Doha
Berlin
Moscow
Rabat
Kathmandu
Cairo
ubnutu@ubnutu-VPCEH26EN:~$
```

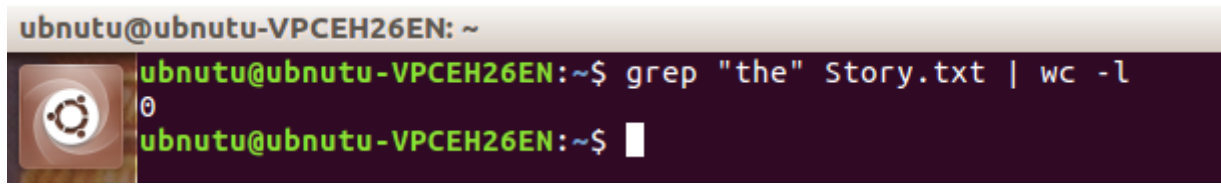
(Use : awk '{print \$2}' Countries.txt)

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



```
ubnutu@ubnutu-VPCEH26EN:~$ find . type f \( -name "*.txt" -o -name "*.doc" \)
./SortCountry.txt
./FileList.txt
./file.txt
./hello.doc
```

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

A terminal window with a dark background. The prompt is 'ubnutu@ubnutu-VPCEH26EN: ~'. The command 'ubnutu@ubnutu-VPCEH26EN:~\$ grep "the" Story.txt | wc -l' is entered. The output '0' is displayed. The prompt 'ubnutu@ubnutu-VPCEH26EN:~\$' is shown again with a cursor.

```
ubnutu@ubnutu-VPCEH26EN: ~
ubnutu@ubnutu-VPCEH26EN:~$ grep "the" Story.txt | wc -l
0
ubnutu@ubnutu-VPCEH26EN:~$
```

(Use : grep "the" Story.txt" | wc -l)

CONCLUSION

Practice Cycle 1 has been done and required results are obtained as above using Ubuntu 16.04.