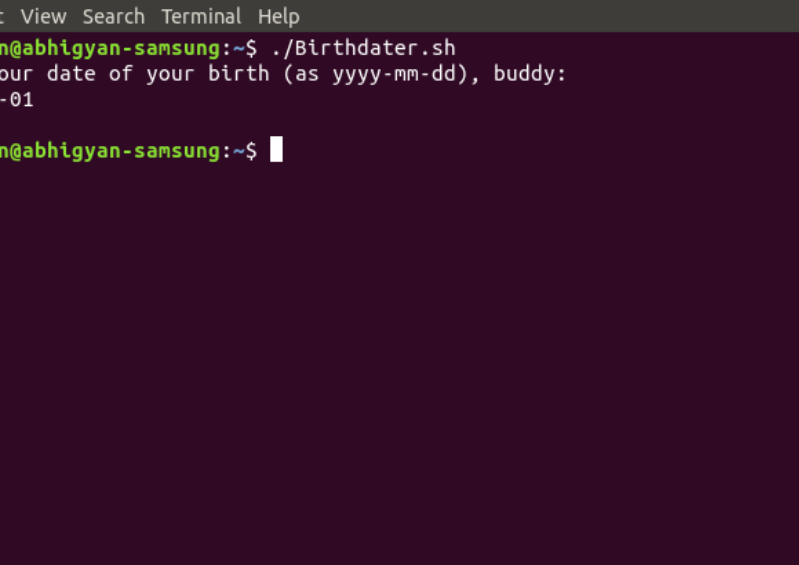


Homework 2

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ME19B001

Homework – Session 4

7.1. Execute this script and see the output.

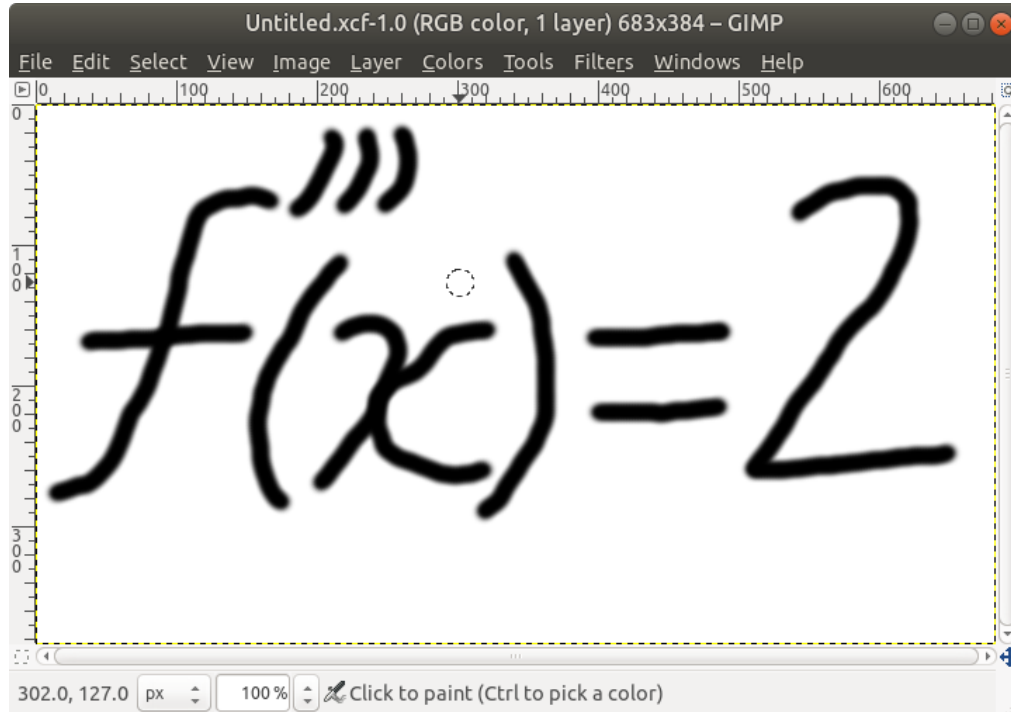


The screenshot shows a terminal window with a dark background. The title bar at the top reads "abhigyan@abhigyan-samsung: ~" and includes standard window control buttons. The terminal's menu bar lists "File", "Edit", "View", "Search", "Terminal", and "Help". The prompt "abhigyan@abhigyan-samsung:~\$" is followed by the command "./Birthdater.sh". The script's output consists of two lines: "Enter your date of your birth (as yyyy-mm-dd), buddy:" and "2001-02-01". The day of the week "Thu" is not visible in the image. The prompt "abhigyan@abhigyan-samsung:~\$" appears again at the end of the line, with a cursor following it.

```
abhigyan@abhigyan-samsung: ~  
File Edit View Search Terminal Help  
abhigyan@abhigyan-samsung:~$ ./Birthdater.sh  
Enter your date of your birth (as yyyy-mm-dd), buddy:  
2001-02-01  
Thu  
abhigyan@abhigyan-samsung:~$
```

[illegible]

4.2. Create images using the tool “gimp” and export to different formats like png, tiff, jpg, gif and bmp. Use the “file” command to see what the system knows about these formats.



```
abhigyan@abhigyan-samsung: ~/Pictures
File Edit View Search Terminal Help
abhigyan@abhigyan-samsung:~/Pictures$ file fx2.jpg
fx2.jpg: JPEG image data, JFIF standard 1.01, resolution (DPI), density 72x72, s
egment length 16, comment: "Created with GIMP", progressive, precision 8, 683x38
4, frames 3
abhigyan@abhigyan-samsung:~/Pictures$ file fx2.bmp
fx2.bmp: PC bitmap, Windows 95/NT4 and newer format, 683 x 384 x 24
abhigyan@abhigyan-samsung:~/Pictures$ file fx2.png
fx2.png: PNG image data, 683 x 384, 8-bit/color RGB, non-interlaced
abhigyan@abhigyan-samsung:~/Pictures$
```

4.3. Create a command that lists all the shell scripts in the directory “/bin”

```
abhigyan@abhigyan-samsung: ~  
File Edit View Search Terminal Help  
#!/bin/bash  
c=0;  
x=0;  
for a_file in /bin/*; do  
    if ! [ -z "`file $a_file|grep 'shell script'" ]  
    then  
        ((c++));  
    fi  
done;  
echo $c;  
~  
~  
~  
~  
~  
~  
~  
~  
~  
~  
"count-scripts.sh" 11L, 134C 1,1 All
```

```
abhigyan@abhigyan-samsung: ~  
File Edit View Search Terminal Help  
abhigyan@abhigyan-samsung:~$ ./count-scripts.sh  
24  
abhigyan@abhigyan-samsung:~$
```

Homework – Session 5

5.1. List processes that are being run by root or logged-in user

```
abhigyan@abhigyan-samsung: ~  
File Edit View Search Terminal Help  
abhigyan@abhigyan-samsung:~$ ps -u root  
PID TTY          TIME CMD  
 1 ?           00:00:08 systemd  
 2 ?           00:00:00 kthreadd  
 3 ?           00:00:00 rcu_gp  
 4 ?           00:00:00 rcu_par_gp  
 6 ?           00:00:00 kworker/0:0H-kb  
 8 ?           00:00:00 mm_percpu_wq  
 9 ?           00:00:00 ksoftirqd/0  
10 ?           00:00:28 rcu_sched  
11 ?           00:00:00 migration/0  
12 ?           00:00:00 idle_inject/0  
14 ?           00:00:00 cpuhp/0  
15 ?           00:00:00 cpuhp/1  
16 ?           00:00:00 idle_inject/1  
17 ?           00:00:00 migration/1  
18 ?           00:00:00 ksoftirqd/1  
20 ?           00:00:00 kworker/1:0H-kb  
21 ?           00:00:00 cpuhp/2  
22 ?           00:00:00 idle_inject/2  
23 ?           00:00:00 migration/2  
24 ?           00:00:00 ksoftirqd/2  
26 ?           00:00:00 kworker/2:0H-kb  
27 ?           00:00:00 cpuhp/3
```

```
abhigyan@abhigyan-samsung: ~  
File Edit View Search Terminal Help  
abhigyan@abhigyan-samsung:~$ ps -u abhigyan  
PID TTY          TIME CMD  
1636 ?           00:00:02 systemd  
1637 ?           00:00:00 (sd-pam)  
1650 ?           00:00:04 gnome-keyring-d  
1654 tty2         00:00:00 gdm-wayland-ses  
1656 ?           00:00:07 dbus-daemon  
1658 tty2         00:00:00 gnome-session-b  
1728 tty2         00:12:19 gnome-shell  
1735 ?           00:00:00 gvfsd  
1740 ?           00:00:00 gvfsd-fuse  
1748 tty2         00:02:54 Xwayland  
1756 ?           00:00:00 at-spi-bus-laun  
1761 ?           00:00:00 dbus-daemon  
1763 ?           00:00:02 at-spi2-registr  
1769 ?           00:02:54 pulseaudio  
1784 tty2         00:00:07 ibus-daemon  
1785 ?           00:00:00 xdg-permission-  
1792 tty2         00:00:00 ibus-dconf  
1794 tty2         00:00:00 ibus-x11  
1796 ?           00:00:00 ibus-portal  
1805 ?           00:00:00 gnome-shell-cal  
1814 ?           00:00:02 evolution-sourc  
1815 ?           00:00:03 gvfs-udisks2-vo
```

5.2. List files that have write access to others

```
abhigyan@abhigyan-samsung: ~  
File Edit View Search Terminal Help  
abhigyan@abhigyan-samsung:~$ ls -l|grep "^.....w"  
abhigyan@abhigyan-samsung:~$
```

The above command returns an empty output as there aren't any files in the current directory which have write access to others.

```
abhigyan@abhigyan-samsung: ~  
File Edit View Search Terminal Help  
abhigyan@abhigyan-samsung:~$ ls -l|grep "^.....w"  
abhigyan@abhigyan-samsung:~$ chmod 777 physics-engines.txt  
abhigyan@abhigyan-samsung:~$ ls -l|grep "^.....w"  
-rwxrwxrwx  1 abhigyan abhigyan   23 Sep 10 09:42 physics-engines.txt  
abhigyan@abhigyan-samsung:~$
```

The above command now returns an output as I have manually changed one of the files to have write access to others.

5.3. List used space for only mounted hard disk partitions

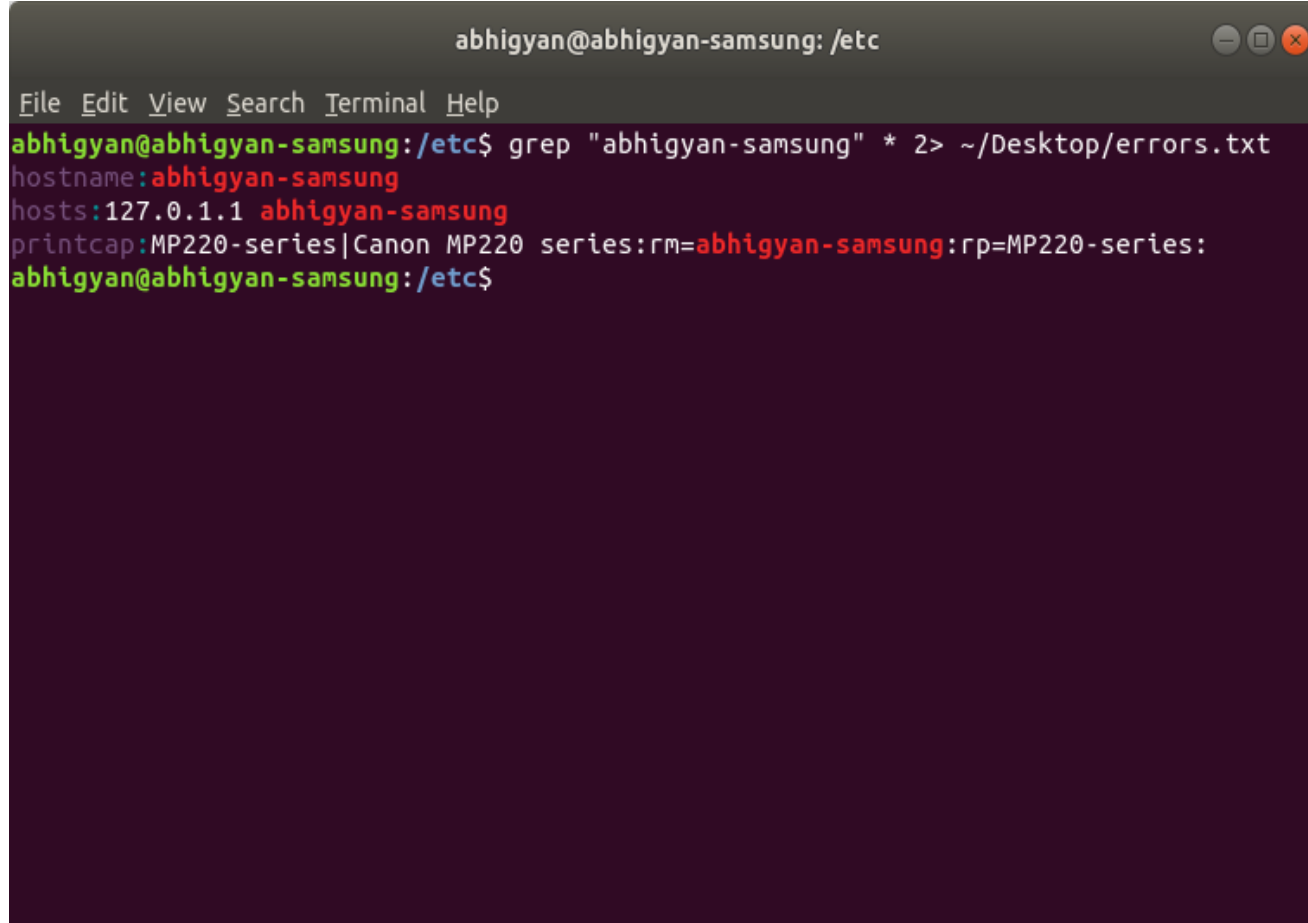
```
abhigyan@abhigyan-samsung: ~  
File Edit View Search Terminal Help  
abhigyan@abhigyan-samsung:~$ df -h|grep "^/dev/"  
/dev/sda6      448G   57G   369G   14% /  
/dev/loop2     105M   105M     0 100% /snap/whatsdesk/17  
/dev/loop3     218M   218M     0 100% /snap/wine-platform-runtime/30  
/dev/loop4     1.0M   1.0M     0 100% /snap/gnome-logs/73  
/dev/loop5     3.8M   3.8M     0 100% /snap/gnome-system-monitor/91  
/dev/loop1      89M    89M     0 100% /snap/core/7396  
/dev/loop6      55M    55M     0 100% /snap/core18/1144  
/dev/loop7      55M    55M     0 100% /snap/core18/1098  
/dev/loop0     150M   150M     0 100% /snap/gnome-3-28-1804/71  
/dev/loop8      18M    18M     0 100% /snap/pdftk/9  
/dev/loop10    150M   150M     0 100% /snap/gnome-3-28-1804/67  
/dev/loop14     6.5M   6.5M     0 100% /snap/gnome-clocks/177  
/dev/loop16     4.3M   4.3M     0 100% /snap/gnome-calculator/501  
/dev/loop15    141M   141M     0 100% /snap/gnome-3-26-1604/92  
/dev/loop13      36M    36M     0 100% /snap/gtk-common-themes/1198  
/dev/loop20     6.5M   6.5M     0 100% /snap/gnome-clocks/198  
/dev/loop9     182M   182M     0 100% /snap/spotify/36  
/dev/loop17     15M    15M     0 100% /snap/gnome-characters/296  
/dev/loop22     3.8M   3.8M     0 100% /snap/gnome-system-monitor/100  
/dev/loop19     15M    15M     0 100% /snap/gnome-characters/317  
/dev/loop25      43M    43M     0 100% /snap/gtk-common-themes/1313  
/dev/loop11    261M   261M     0 100% /snap/kde-frameworks-5-core18/32  
/dev/loop12     4.2M   4.2M     0 100% /snap/gnome-calculator/406
```

The df command shows only mounted filesystems.

```
abhigyan@abhigyan-samsung: ~  
File Edit View Search Terminal Help  
abhigyan@abhigyan-samsung:~$ df -h|grep "^/dev/sd"  
/dev/sda6      448G   57G   369G   14% /  
abhigyan@abhigyan-samsung:~$
```

Only the partitions starting with /dev/sd'x' are real partitions, the remaining ones are actually just internal filesystems.

5.4. Find out which files in the /etc directory use the name of your machine

A terminal window titled 'abhigyan@abhigyan-samsung: /etc' with standard window controls. The terminal shows a command to search for the machine name in files within the /etc directory. The output lists several system files containing the name.

```
abhigyan@abhigyan-samsung: /etc
File Edit View Search Terminal Help
abhigyan@abhigyan-samsung:/etc$ grep "abhigyan-samsung" * 2> ~/Desktop/errors.txt
hostname:abhigyan-samsung
hosts:127.0.1.1 abhigyan-samsung
printcap:MP220-series|Canon MP220 series:rm=abhigyan-samsung:rp=MP220-series:
abhigyan@abhigyan-samsung:/etc$
```

Homework – Session 6

6. Using the sed command (Stream Editor)

```
abhigyan@abhigyan-samsung: ~/Code/Bash-Scripts
File Edit View Search Terminal Help
abhigyan@abhigyan-samsung:~/Code/Bash-Scripts$ cat RollList.csv|sed -e 's/^\(.*\), \(.*\)$/\L\1@smail.iitm.ac.in/g'
ce19b089@smail.iitm.ac.in
me18b009@smail.iitm.ac.in
me18b020@smail.iitm.ac.in
me18b027@smail.iitm.ac.in
me18b033@smail.iitm.ac.in
me18b046@smail.iitm.ac.in
me18b086@smail.iitm.ac.in
me18b089@smail.iitm.ac.in
me18b145@smail.iitm.ac.in
me18b146@smail.iitm.ac.in
me18b152@smail.iitm.ac.in
me18b156@smail.iitm.ac.in
me18b157@smail.iitm.ac.in
me19b001@smail.iitm.ac.in
me19b003@smail.iitm.ac.in
me19b003@smail.iitm.ac.in
me19b012@smail.iitm.ac.in
me19b013@smail.iitm.ac.in
me19b023@smail.iitm.ac.in
me19b035@smail.iitm.ac.in
me19b036@smail.iitm.ac.in
me19b048@smail.iitm.ac.in
```