```
student@linux:~/Documents/Process$ pidof firefox
6212 2986 2747 2690 2630 2559
student@linux:~/Documents/Process$ pidof bash
7050
```

```
student@linux:~/Documents/Process$ ps
  PID TTY          TIME CMD
 7050 pts/0    00:00:00 bash
 7275 pts/0    00:00:00 ps
student@linux:~/Documents/Process$ ps el
F  UID    PID  PPID PRI  NI    VSZ    RSS WCHAN  STAT TTY       TIME COMMAND
4  1000  2006  1959  20   0 164208   6656 poll_s Ssl+ tty2      0:00 /usr/lib/gd
4  1000  2008  2006  20   0 301424  53636 ep_pol Sl+  tty2      0:33 /usr/lib/xo
0  1000  2016  2006  20   0 189824  13784 poll_s Sl+  tty2      0:00 /usr/lib/gn
0  1000  7050  7039  20   0  11428   5352 do_wai Ss   pts/0     0:00 bash SSH_AU
4  1000  7280  7050  20   0  11704   3164 -      R+   pts/0     0:00 ps el SHELL
student@linux:~/Documents/Process$ ps -el
F S  UID    PID  PPID  C PRI  NI ADDR SZ WCHAN    TTY          TIME CMD
4 S    0      1     0  0  80   0 - 42225 -        ?        00:00:05 systemd
1 S    0      2     0  0  80   0 -     0 -        ?        00:00:00 kthreadd
1 I    0      3     2  0  60 -20 -     0 -        ?        00:00:00 rcu_gp
1 I    0      4     2  0  60 -20 -     0 -        ?        00:00:00 rcu_par_gp
1 I    0      6     2  0  60 -20 -     0 -        ?        00:00:00 kworker/0:0H-kblockd
1 I    0      9     2  0  60 -20 -     0 -        ?        00:00:00 mm_percpu_wq
1 S    0     10     2  0  80   0 -     0 -        ?        00:00:00 ksoftirqd/0
1 I    0     11     2  0  80   0 -     0 -        ?        00:00:01 rcu_sched
1 S    0     12     2  0 -40   - -     0 -        ?        00:00:00 migration/0
5 S    0     13     2  0   9   - -     0 -        ?        00:00:00 idle_inject/0
1 S    0     14     2  0  80   0 -     0 -        ?        00:00:00 cpuhp/0
5 S    0     15     2  0  80   0 -     0 -        ?        00:00:00 cpuhp/1
1 S    0     16     2  0   9   - -     0 -        ?        00:00:00 idle_inject/1
1 S    0     17     2  0 -40   - -     0 -        ?        00:00:00 migration/1
1 S    0     18     2  0  80   0 -     0 -        ?        00:00:00 ksoftirqd/1
1 I    0     19     2  0  80   0 -     0 -        ?        00:00:00 kworker/1:0-events
1 I    0     20     2  0  60 -20 -     0 -        ?        00:00:00 kworker/1:0H-kblockd
5 S    0     21     2  0  80   0 -     0 -        ?        00:00:00 cpuhp/2
5 S    0     22     2  0   9   - -     0 -        ?        00:00:00 idle_inject/2
1 S    0     23     2  0 -40   - -     0 -        ?        00:00:00 migration/2
5 S    0     81     2  0  80   0 -     0 -        ?        00:00:00 cpuhp/12
5 S    0     82     2  0   9   - -     0 -        ?        00:00:00 idle_inject/12
1 S    0     83     2  0 -40   - -     0 -        ?        00:00:00 migration/12
1 S    0     84     2  0  80   0 -     0 -        ?        00:00:00 ksoftirqd/12
1 I    0     86     2  0  60 -20 -     0 -        ?        00:00:00 kworker/12:0H-kblockd
5 S    0     87     2  0  80   0 -     0 -        ?        00:00:00 cpuhp/13
5 S    0     88     2  0   9   - -     0 -        ?        00:00:00 idle_inject/13
1 S    0     89     2  0 -40   - -     0 -        ?        00:00:00 migration/13
1 S    0     90     2  0  80   0 -     0 -        ?        00:00:00 ksoftirqd/13
1 I    0     92     2  0  60 -20 -     0 -        ?        00:00:00 kworker/13:0H-kblockd
5 S    0     93     2  0  80   0 -     0 -        ?        00:00:00 cpuhp/14
5 S    0     94     2  0   9   - -     0 -        ?        00:00:00 idle_inject/14
1 S    0     95     2  0 -40   - -     0 -        ?        00:00:00 migration/14
1 S    0     96     2  0  80   0 -     0 -        ?        00:00:00 ksoftirqd/14
1 I    0     98     2  0  60 -20 -     0 -        ?        00:00:00 kworker/14:0H-kblockd
5 S    0     99     2  0  80   0 -     0 -        ?        00:00:00 cpuhp/15
5 S    0    100     2  0   9   - -     0 -        ?        00:00:00 idle_inject/15
1 S    0    101     2  0 -40   - -     0 -        ?        00:00:00 migration/15
1 S    0    102     2  0  80   0 -     0 -        ?        00:00:00 ksoftirqd/15
1 I    0    104     2  0  60 -20 -     0 -        ?        00:00:00 kworker/15:0H-kblockd
5 S    0    105     2  0  80   0 -     0 -        ?        00:00:00 kdevtmpfs
1 I    0    106     2  0  60 -20 -     0 -        ?        00:00:00 netns
1 S    0    107     2  0  80   0 -     0 -        ?        00:00:00 rcu_tasks_kthre
1 S    0    108     2  0  80   0 -     0 -        ?        00:00:00 kauditd
1 S    0    111     2  0  80   0 -     0 -        ?        00:00:00 khungtaskd
1 S    0    112     2  0  80   0 -     0 -        ?        00:00:00 oom_reaper
1 I    0    113     2  0  60 -20 -     0 -        ?        00:00:00 writeback
1 S    0    114     2  0  80   0 -     0 -        ?        00:00:00 kcompactd0
1 S    0    115     2  0  85   5 -     0 -        ?        00:00:00 ksmd
1 S    0    116     2  0  99  19 -     0 -        ?        00:00:00 khugepaged
1 I    0    208     2  0  60 -20 -     0 -        ?        00:00:00 kintegrityd
1 I    0    209     2  0  60 -20 -     0 -        ?        00:00:00 kblockd
1 I    0    210     2  0  60 -20 -     0 -        ?        00:00:00 blkcg_punt_bio
1 I    0    212     2  0  80   0 -     0 -        ?        00:00:00 kworker/11:1-events
1 I    0    214     2  0  60 -20 -     0 -        ?        00:00:00 tpm_dev_wq
1 I    0    215     2  0  60 -20 -     0 -        ?        00:00:00 ata_sff
1 I    0    216     2  0  60 -20 -     0 -        ?        00:00:00 md
```

x

```
For more details see ps(1).
student@linux:~/Documents/Process$ pstree
systemd─┬─ModemManager───2*[{ModemManager}]
        ├─NetworkManager───2*[{NetworkManager}]
        ├─accounts-daemon───2*[{accounts-daemon}]
        ├─acpid
        ├─avahi-daemon───avahi-daemon
        ├─boltd───2*[{boltd}]
        ├─colord───2*[{colord}]
        ├─containerd───25*[{containerd}]
        ├─cron
        ├─cups-browsed───2*[{cups-browsed}]
        ├─cupsd
        ├─dbus-daemon
        ├─dockerd───25*[{dockerd}]
        ├─fwupd───4*[{fwupd}]
        ├─gdm3─┬─gdm-session-wor─┬─gdm-x-session─┬─Xorg───3*[{Xorg}]
        │      │                 │               ├─gnome-session-b─┬─ssh-agent
        │      │                 │               │                 └─2*[{gnome-session-b}]
        │      │                 │               └─2*[{gdm-x-session}]
        │      │                 └─2*[{gdm-session-wor}]
        │      └─2*[{gdm3}]
        ├─gnome-keyring-d───3*[{gnome-keyring-d}]
        ├─irqbalance───{irqbalance}
        ├─2*[kerneloops]
        ├─networkd-dispat
        ├─polkitd───2*[{polkitd}]
        ├─rsyslogd───3*[{rsyslogd}]
        ├─rtkit-daemon───2*[{rtkit-daemon}]
        ├─snapd───34*[{snapd}]
        ├─systemd─┬─(sd-pam)
        │         ├─at-spi-bus-laun─┬─dbus-daemon
        │         │                 └─3*[{at-spi-bus-laun}]
        │         ├─at-spi2-registr───2*[{at-spi2-registr}]
        │         ├─dbus-daemon
```

```
student@linux:~/Documents/Process$ ./ab
before forking
creating child process
Iam a parent process
 getppid: 7050
Iam a child process
 getpid: 8659student@linux:~/Documents/Process$ 
```

```
student@linux:~/Documents/Process$ ./zamil
before forking
creating child process
THe value of parent process variable 2
In parent process: y=15
after forking
THe value of child process variable 3
In child process: y=12
after forking
student@linux:~/Documents/Process$ gcc -o  third file3.c
student@linux:~/Documents/Process$ ./third
2
4
34
1 4
1 4
student@linux:~/Documents/Process$ 
```

```
1 I      0  8779     2  0  80   0 -     0 -      ?      00:00:00 kworker/15:0-e
1 I      0  8781     2  0  80   0 -     0 -      ?      00:00:00 kworker/0:0-me
0 S   1000  8787  2109  0  80   0 - 97008 poll_s ?     00:00:00 gvfsd-network
0 S   1000  8805  2109  0  80   0 - 78770 poll_s ?     00:00:00 gvfsd-dnssd
1 I      0  8844     2  0  80   0 -     0 -      ?      00:00:00 kworker/5:0
0 S   1000  8862  1981  0  80   0 - 265996 poll_s ?    00:00:04 nautilus
1 I      0  8873     2  0  80   0 -     0 -      ?      00:00:00 kworker/6:0-mm
1 I      0  8909     2  0  80   0 -     0 -      ?      00:00:00 kworker/3:0-mm
1 I      0  8962     2  0  80   0 -     0 -      ?      00:00:00 kworker/u32:1-
1 I      0  9228     2  0  80   0 -     0 -      ?      00:00:00 kworker/11:1-m
1 I      0  9261     2  0  80   0 -     0 -      ?      00:00:00 kworker/10:1-c
1 I      0  9502     2  0  80   0 -     0 -      ?      00:00:00 kworker/0:1-ev
1 I      0  9504     2  0  80   0 -     0 -      ?      00:00:00 kworker/4:0-ev
1 I      0  9548     2  0  80   0 -     0 -      ?      00:00:00 kworker/2:1-mm
1 I      0  9570     2  0  80   0 -     0 -      ?      00:00:00 kworker/u32:2-
4 S   1000  9605  2559  0  80   0 - 596881 poll_s ?    00:00:00 Web Content
1 I      0  9660     2  0  80   0 -     0 -      ?      00:00:00 kworker/14:1-m
1 I      0  9665     2  0  80   0 -     0 -      ?      00:00:00 kworker/9:2
1 I      0  9675     2  0  80   0 -     0 -      ?      00:00:00 kworker/u32:3
0 S   1000  9800  7039  0  80   0 -  2857 do_wai pts/1 00:00:00 bash
0 R   1000  9835  7050 98  80   0 -   620 -      pts/0 00:00:11 4th
1 Z   1000  9836  9835  0  80   0 -     0 -      pts/0 00:00:00 4th <defunct>
4 R   1000  9837  9800  0  80   0 -  2926 -      pts/1 00:00:00 ps
student@linux:~$
tudent@linux:~/Documents/Process$ gedit fourth.c
tudent@linux:~/Documents/Process$ gcc -o 4th fourth.c
tudent@linux:~/Documents/Process$ ./4th
ello from main
unning parent,PID=9835
erminating child, PID = 9836
```

```
 child
 PID is 10287
 parent PID is 10286
 parent
 PID is 10286student@linux:~/Documents/Process$ gedit fifth.c

(org.gnome.gedit:10289): Gtk-WARNING **: 20:42:39.188: Negative content width -
6 (allocation 18, extents 12x12) while allocating gadget (node label, owner Gtk
Label)

(org.gnome.gedit:10289): Gtk-WARNING **: 20:42:39.189: Negative content width -
6 (allocation 18, extents 12x12) while allocating gadget (node label, owner Gtk
Label)

(org.gnome.gedit:10289): Gtk-WARNING **: 20:42:46.456: Negative content width -
6 (allocation 18, extents 12x12) while allocating gadget (node label, owner Gtk
Label)

(org.gnome.gedit:10289): Gtk-WARNING **: 20:42:46.456: Negative content width -
6 (allocation 18, extents 12x12) while allocating gadget (node label, owner Gtk
Label)
```

```c
#include<unistd.h>
#include<sys/wait.h>

int main(){

        int pid=fork();
        if(pid>0){
                wait(NULL);
                sleep(10);
                printf("\n parent");
                printf("\n PID is %d",getpid()
}
if(pid==0)
{
printf("\n child");
printf("\n PID is %d",getpid());
printf("\n parent PID is %d",getppid());
}
return 0;
}
```
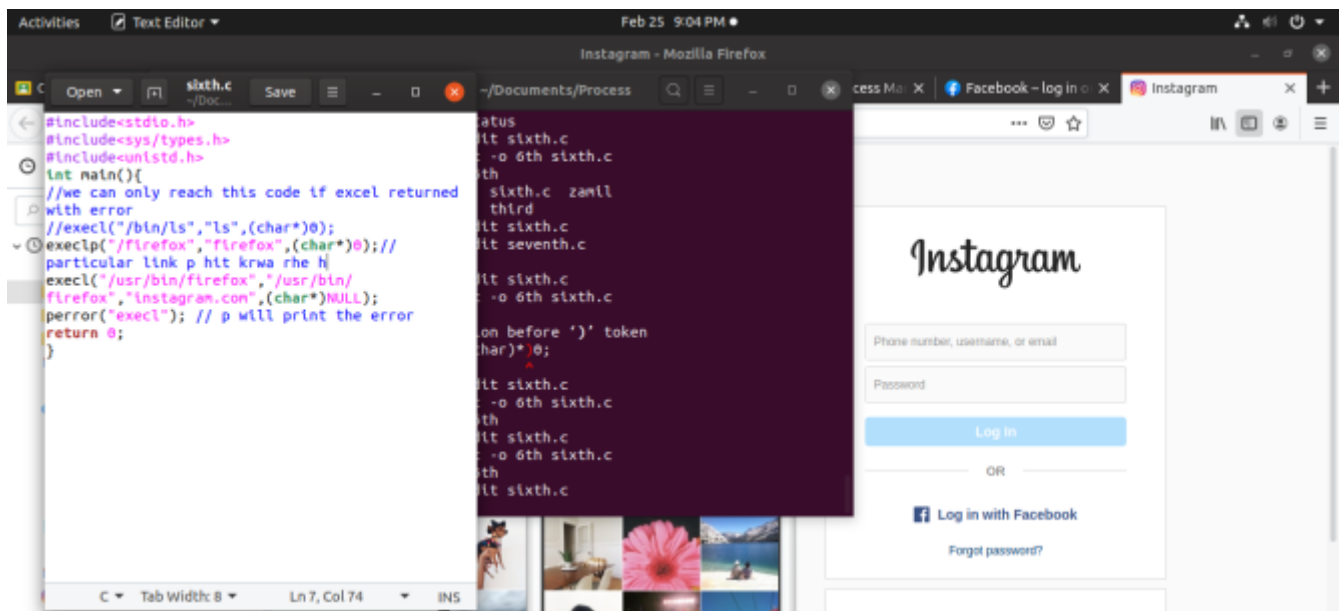
```
student@linux:~/Documents/Process$ gcc -o 6th sixth.c
student@linux:~/Documents/Process$ ./6th
4th   6th   fifth.c   file3.c   lab4.c    sixth.c   zamil
5th   ab    file2.c   fourth.c  lab4.txt  third
student@linux:~/Documents/Process$
```

Instagram - Mozilla Firefox

```
#include<stdio.h>
#include<sys/types.h>
#include<unistd.h>
int main(){
//we can only reach this code if excel returned
with error
//execl("/bin/ls","ls",(char*)0);
execlp("/firefox","firefox",(char*)0);//
particular link p hit krwa rhe h
execl("/usr/bin/firefox","/usr/bin/
firefox","instagram.com",(char*)NULL);
perror("execl"); // p will print the error
return 0;
}
```

C ▼   Tab Width: 8 ▼   Ln 7, Col 74   ▼   INS

Instagram

Phone number, username, or email

Password

Log in

OR

Log in with Facebook

Forgot password?

```
student@linux:~/Documents/Process$ ./7th
press e if you want to terminate
cmd : 0
cannot execute 0
cmd : 1
cannot execute 1
cmd : 2
cannot execute 2
cmd : 3
cannot execute 3
cmd : t
cannot execute t
cmd : e
student@linux:~/Documents/Process$
```

ty of Comp..