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Lab Practical 1:

P:To implement ls command, ls -l command, ls -la command in terminal

```
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ ls -l
total 72
drwxrwxr-x 2 ubuntu ubuntu 4096 Feb 10 19:27 96
drwxrwxr-x 2 ubuntu ubuntu 4096 Jan 12 20:26 deeraj
drwxr-xr-x 2 ubuntu ubuntu 4096 Nov  5 10:26 Documents
drwxr-xr-x 2 ubuntu ubuntu 4096 Dec  8 13:12 Downloads
drwxrwxr-x 2 ubuntu ubuntu 4096 Oct 15 11:46 dpm
drwxrwxr-x 2 ubuntu ubuntu 4096 May 15  2025 ffiles
drwxrwxr-x 2 ubuntu ubuntu 4096 Mar  5  2025 GITLAB
drwxr-xr-x 2 ubuntu ubuntu 4096 Feb 27  2025 Music
drwxr-xr-x 3 ubuntu ubuntu 4096 Feb 28  2025 Pictures
-rwxrwxr-x 1 ubuntu ubuntu  120 Jan 16 17:43 prog1.c
drwxrwxr-x 2 ubuntu ubuntu 4096 Apr  3  2025 projects
drwxr-xr-x 2 ubuntu ubuntu 4096 Feb 27  2025 Public
drwxrwxr-x 2 ubuntu ubuntu 4096 Feb 10 19:28 sanjana
drwxrwxr-x 2 ubuntu ubuntu 4096 Feb 10 19:34 sanjuu
drwx------ 6 ubuntu ubuntu 4096 Feb 10 19:26 snap
drwxr-xr-x 2 ubuntu ubuntu 4096 Feb 27  2025 Templates
drwxrwxr-x 2 ubuntu ubuntu 4096 Mar  7  2025 test
drwxr-xr-x 2 ubuntu ubuntu 4096 Feb 27  2025 Videos
```

```
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ ls -a
.               .config     GITLAB      .pki        .ssh
..              deeraj      .gnupg      .profile    .sudo_as_admin_successful
96              Documents   .gphoto     prog1.c     Templates
.bash_history   .dotnet     .ipython    projects    test
.bash_logout    Downloads   .lesshst    Public      .txt.save
.bashrc         dpm         .local      sanjana     Videos
.cache          ffiles      Music       sanjuu      .vscode
.conda          .fontconfig Pictures    snap
```

```
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjuu$ cd ~
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ ls
96          Downloads  GITLAB     prog1.c    sanjana  Templates
deeraj      dpm        Music      projects   sanjuu   test
Documents   ffiles     Pictures   Public     snap     Videos
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ cd sanjuu
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjuu$ ls
```

P: To use nano command, and make c or shellscript files and editing it using the nano editor

```
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ nano file1.c
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ gcc file1.c -o file9
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ ./file9
Hellooubuntu@ubuntu-OptiPlex-SFF-7020:~$ 
```

```
    4◆@ @ ◆◆◆◆◆◆=◆-◆◆?◆@0
                    @00+@0`◆3◆}5◆ubuntu@ubuntu-OptiPlex-SFF-7020:~$ cat file1.c
#include <stdio.h>
//#include <conio.h>
void main() {
printf("Helloo");
}
```

P: To use sleep command, which delays the appearance of the next jobs by given seconds, and jobs command which displays ongoing background data.

```
Hellooubuntu@ubuntu-OptiPlex-SFF-7020:~$ sleep 30
 ubuntu@ubuntu-OptiPlex-SFF-7020:~$ sleep 5
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ sleep 30
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ sleep 1
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ sleep &
[1] 9342
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ sleep: missing operand
Try 'sleep --help' for more information.
sleep 5

[1]+  Exit 1                  sleep
ubuntu@ubuntu-OptiPlex-SFF-7020:~$
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ sleep 30 &
[1] 9517
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ sleep 40 &
[2] 9527
[1]   Done                    sleep 30
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ jobs
[2]+  Done                    sleep 40
```

P: Usage of fg command, bg command and ps command

```
}
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ jobs
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ fg
bash: fg: current: no such job
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ bg
bash: bg: current: no such job
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ ps
    PID TTY          TIME CMD
   4832 pts/0    00:00:00 bash
  10834 pts/0    00:00:00 ps
```

P: Usage of pstree and pstree -p command to display the operations free ongoing

```
   4832 pts/0    00:00:00 bash
  10834 pts/0    00:00:00 ps
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ pstree
systemd─┬─ModemManager───3*[{ModemManager}]
        ├─NetworkManager───3*[{NetworkManager}]
        ├─accounts-daemon───3*[{accounts-daemon}]
        ├─avahi-daemon───avahi-daemon
        ├─bluetoothd
        ├─colord───3*[{colord}]
```

```
        ├─unattended-upgr───{unattended-upgr}
        ├─upowerd───3*[{upowerd}]
        └─wpa_supplicant
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ pstree -p
systemd(1)─┬─ModemManager(1249)─┬─{ModemManager}(1266)
           │                    ├─{ModemManager}(1272)
           │                    └─{ModemManager}(1274)
           ├─NetworkManager(1205)─┬─{NetworkManager}(1300)
           │                      ├─{NetworkManager}(1306)
```

P: To use pid, ppid and cmd command with ps and with shellscript in nano

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```
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ ps -o ppid,pid,cmd
  PPID     PID CMD
  4825    4832 bash
  4832   11319 ps -o ppid,pid,cmd
```

```
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ nano second.sh
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ chmod +x second.sh
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ ./second.sh
Parent PID:11664
   PID    PPID CMD
  4832    4825 bash
 11664    4832 /bin/bash ./second.sh
 11665   11664 sleep 20
 11666   11664 ps -o pid,ppid,cmd
ubuntu@ubuntu-OptiPlex-SFF-7020:~$ 
```