# Assignment 1

# OPERATING SYSTEM

## TOPIC: BASIC UNIX COMMANDS & FILE SYSTEM COMMANDS

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1. Display the date using the "**date**" command.

```
rudra@DESKTOP-40986GA:~$ date
Wed Jul 24 19:27:59 IST 2024
rudra@DESKTOP-40986GA:~$
```

2. Check who are the users logged in using the "**who**" command.

```
rudra@DESKTOP-40986GA:~$ who
rudra@DESKTOP-40986GA:~$
```

3. Check the running processes using the "**ps**" command.

```
rudra@DESKTOP-40986GA:~$ ps
   PID TTY          TIME CMD
     9 tty1     00:00:00 bash
    74 tty1     00:00:00 ps
rudra@DESKTOP-40986GA:~$
```

4. List the files with "**ls**" command with and without **–l** option.



```
rudra@DESKTOP-40986GA:~$ ls -l
total 4
-rw-r--r-- 1 rudra rudra   27 Nov  4  2022 '*.html.gz'
-rw-r--r-- 1 rudra rudra    0 Nov 13  2022 '='
-rw-r--r-- 1 rudra rudra   18 Apr 28  2021  BCA
-rw-r--r-- 1 rudra rudra    9 Apr 28  2021  BCA1
drwxr-xr-x 1 rudra rudra 4096 Sep 19  2022  BCA2020
-rw-r--r-- 1 rudra rudra    9 Apr 28  2021  BCA3
drwxr-xr-x 1 rudra rudra 4096 Jun 15  2021  Exam
drwxr-xr-x 1 rudra rudra 4096 Nov 13  2022  Rudradeep_50
-rw-r--r-- 1 rudra rudra  440 Nov 13  2022  args.sh
drwxr-xr-x 1 rudra rudra 4096 Oct 21  2022  assignment-6
drwxr-xr-x 1 rudra rudra 4096 May  5  2021  avg
drwxr-xr-x 1 rudra rudra 4096 Apr 12  2021  bca
-rwxr-xr-x 1 rudra rudra   89 Nov 13  2022  break.sh
drwxr-xr-x 1 rudra rudra 4096 May 12  2021  calculator
drwxr-xr-x 1 rudra rudra 4096 May 15  2021  calculator2
-rwxr-xr-x 1 rudra rudra  156 Nov 13  2022  case.sh
drwxr-xr-x 1 rudra rudra 4096 Nov 13  2022  chosenOne
-rwxr-xr-x 1 rudra rudra 2238 Nov 13  2022  code.c
drwxr-xr-x 1 rudra rudra 4096 Aug 28  2022  comp
drwxr-xr-x 1 rudra rudra 4096 Aug 26  2022  deb
drwxr-xr-x 1 rudra rudra 4096 Aug 26  2022  dvd
drwxr-xr-x 1 rudra rudra 4096 May 12  2021  equal
drwxr-xr-x 1 rudra rudra 4096 May 15  2021  equal2
drwxr-xr-x 1 rudra rudra 4096 Aug 13  2022  even
drwxr-xr-x 1 rudra rudra 4096 Jun 15  2021  exam
-rw-r--r-- 1 rudra rudra    0 Aug 28  2022  filecomp.sh
-rw-r--r-- 1 rudra rudra  166 Aug 13  2022  filegreater.sh
-rwxr-xr-x 1 rudra rudra  221 Jun 14  2021  filepractice.sh
drwxr-xr-x 1 rudra rudra 4096 May 12  2021  fruit
drwxr-xr-x 1 rudra rudra 4096 May 15  2021  fruit2
-rwxr-xr-x 1 rudra rudra  269 Nov 13  2022  gel.sh
```

5. Check the *manual of* **ls** command.



6. Show the commands used to display (i) filenames (ii) processes (iii) users.







7. Check and state the difference between man and whatis command by checking **man cp** & **whatis cp**.

8. What is the primary difference between **printf** and **echo** command? Check and print.

   **echo:** Simple and easy to use for printing text to the terminal. It automatically adds a newline at the end.

   **printf:** More powerful and flexible, similar to the C language printf, allowing formatted output and no automatic newline.

```
rudra@DESKTOP-40986GA:~$ echo "Hello, World!"
Hello, World!
rudra@DESKTOP-40986GA:~$
```

```
rudra@DESKTOP-40986GA:~$ printf "Hello, World!"
Hello, World!rudra@DESKTOP-40986GA:~$
```

9. In the home directory, create a directory *MCA2022*. Inside the *MCA2022*, create another directory *<FistName_ Section_ ClassRoll>* and get into the directory [**~** /**MCA2022**/**Ankur_A_00$**].

```
rudra@DESKTOP-40986GA:~$ mkdir MCA2023
rudra@DESKTOP-40986GA:~$ cd
rudra@DESKTOP-40986GA:~$ cd MCA2023
rudra@DESKTOP-40986GA:~/MCA2023$ mkdir Rudradeep_A_13
rudra@DESKTOP-40986GA:~/MCA2023$ cd Rudradeep_A_13
rudra@DESKTOP-40986GA:~/MCA2023/Rudradeep_A_13$
```

10. Go to the subdirectory and create another subdirectory "**Unix_File_System**" within it.

```
rudra@DESKTOP-40986GA:~/MCA2023/Rudradeep_A_13$ mkdir Unix_File_System
rudra@DESKTOP-40986GA:~/MCA2023/Rudradeep_A_13$ cd Unix_File_System
```

11. Create the subdirectories `TestA`, `TestB`, `TestC` and corresponding sub-subdirectories `TestA-1`, `TestA-2`, `TestB-1`, `TestB-2`, `TestB-3`, `TestC-1`, `TestB-2-i` in a single command.

```
rudra@DESKTOP-40986GA:~/MCA2023/Rudradeep_A_13/Unix_File_System$ mkdir -p TestA/TestA-1 TestA/TestA-2 TestB/TestB-1 TestB/TestB-2 TestB/TestB-3 TestC/TestC-1 TestB/TestB-2/TestB-2-i
rudra@DESKTOP-40986GA:~/MCA2023/Rudradeep_A_13/Unix_File_System$
```

12. Show the absolute path of `TestB-2-i`.

```
rudra@DESKTOP-40986GA:~/MCA2023/Rudradeep_A_13/Unix_File_System$ readlink -f TestB/TestB-2/TestB-2-i
/home/rudra/MCA2023/Rudradeep_A_13/Unix_File_System/TestB/TestB-2/TestB-2-i
rudra@DESKTOP-40986GA:~/MCA2023/Rudradeep_A_13/Unix_File_System$
```