1. Display the date using 'date' command.

```
sahin@sahin-VirtualBox:~$ date
Monday 22 July 2024 07:08:38 PM IST
sahin@sahin-VirtualBox:~$
```

2. Check who are the users logged in using the 'who' command.

```
sahin@sahin-VirtualBox:~$ who
sahin    :0              2024-07-22 18:29 (:0)
sahin@sahin-VirtualBox:~$
```

3. Check the running processes using the 'ps' command.

```
sahin@sahin-VirtualBox:~$ ps
    PID TTY          TIME CMD
   2216 pts/0    00:00:00 bash
   2224 pts/0    00:00:00 ps
sahin@sahin-VirtualBox:~$
```

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

```
sahin@sahin-VirtualBox:~$ ls
age.sh          circle.sh   Documents  file        month.sh  Pictures  shan       test1
as.html         day.sh      Downloads  file2       Music     Public    tast       Videos
calculator.sh   Desktop     f3         first.html  mydir     sahu      Templates  vowel.sh
sahin@sahin-VirtualBox:~$ ls -l
total 88
-rw-rw-r-- 1 sahin sahin  117 Nov 24  2021 age.sh
-rw-rw-r-- 1 sahin sahin    0 Jan 19  2023 as.html
-rw-rw-r-- 1 sahin sahin   80 Dec  9  2021 calculator.sh
-rwxrwxrwx 1 sahin sahin  234 Nov 24  2021 circle.sh
-rw-rw-r-- 1 sahin sahin  194 Nov 24  2021 day.sh
drwxr-xr-x 2 sahin sahin 4096 Jan 19  2023 Desktop
drwxr-xr-x 2 sahin sahin 4096 Dec  6  2021 Documents
drwxr-xr-x 2 sahin sahin 4096 Oct 29  2021 Downloads
-rw-rw-r-- 1 sahin sahin   20 Feb 17  2023 f3
-rw-rw-r-- 1 sahin sahin  112 Feb 16  2023 file
-rw-rw-r-- 1 sahin sahin  112 Feb 16  2023 file2
-rw-rw-r-- 1 sahin sahin    0 Jan 19  2023 first.html
-rw-rw-r-- 1 sahin sahin  645 Nov 29  2021 month.sh
drwxr-xr-x 2 sahin sahin 4096 Oct 29  2021 Music
drwxrwxr-x 2 sahin sahin 4096 Jan 19  2022 mydir
drwxr-xr-x 2 sahin sahin 4096 Jul 19 10:40 Pictures
drwxr-xr-x 2 sahin sahin 4096 Oct 29  2021 Public
-rw-rw-r-- 1 sahin sahin   25 Jan 19  2022 sahu
-rw-rw-r-- 1 sahin sahin   48 Jan 19  2022 shan
-rw-rw-r-- 1 sahin sahin   58 Jan 19  2022 tast
drwxr-xr-x 2 sahin sahin 4096 Oct 29  2021 Templates
-rw-rw-r-- 1 sahin sahin   58 Jan 19  2022 test1
drwxr-xr-x 2 sahin sahin 4096 Oct 29  2021 Videos
-rw-rw-r-- 1 sahin sahin  416 Dec  6  2021 vowel.sh
sahin@sahin-VirtualBox:~$
```

5. Check the manual of 'ls' command.

```
LS(1)                           User Commands                          LS(1)

NAME
       ls - list directory contents

SYNOPSIS
       ls [OPTION]... [FILE]...

DESCRIPTION
       List  information about the FILEs (the current directory by default).  Sort en-
       tries alphabetically if none of -cftuvSUX nor --sort is specified.

       Mandatory arguments to long options are mandatory for short options too.

       -a, --all
              do not ignore entries starting with .

       -A, --almost-all
              do not list implied . and ..

       --author
              with -l, print the author of each file

       -b, --escape
              print C-style escapes for nongraphic characters

       --block-size=SIZE
              with -l, scale sizes by SIZE when printing them; e.g., '--block-size=M';
              see SIZE format below
 Manual page ls(1) line 1 (press h for help or q to quit)
```

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

```
sahin@sahin-VirtualBox:~$ ls
age.sh          circle.sh  Documents  file       month.sh  Pictures  shan       test1
as.html         day.sh     Downloads  file2      Music     Public    tast       Videos
calculator.sh  Desktop    f3         first.html  mydir     sahu      Templates  vowel.sh
sahin@sahin-VirtualBox:~$ ls -l
total 88
-rw-rw-r-- 1 sahin sahin  117 Nov 24  2021 age.sh
-rw-rw-r-- 1 sahin sahin    0 Jan 19  2023 as.html
-rw-rw-r-- 1 sahin sahin   80 Dec  9  2021 calculator.sh
-rwxrwxrwx 1 sahin sahin  234 Nov 24  2021 circle.sh
-rw-rw-r-- 1 sahin sahin  194 Nov 24  2021 day.sh
drwxr-xr-x 2 sahin sahin 4096 Jan 19  2023 Desktop
drwxr-xr-x 2 sahin sahin 4096 Dec  6  2021 Documents
drwxr-xr-x 2 sahin sahin 4096 Oct 29  2021 Downloads
-rw-rw-r-- 1 sahin sahin   20 Feb 17  2023 f3
-rw-rw-r-- 1 sahin sahin  112 Feb 16  2023 file
-rw-rw-r-- 1 sahin sahin  112 Feb 16  2023 file2
-rw-rw-r-- 1 sahin sahin    0 Jan 19  2023 first.html
-rw-rw-r-- 1 sahin sahin  645 Nov 29  2021 month.sh
drwxr-xr-x 2 sahin sahin 4096 Oct 29  2021 Music
drwxrwxr-x 2 sahin sahin 4096 Jan 19  2022 mydir
drwxr-xr-x 2 sahin sahin 4096 Jul 19 10:40 Pictures
drwxr-xr-x 2 sahin sahin 4096 Oct 29  2021 Public
-rw-rw-r-- 1 sahin sahin   25 Jan 19  2022 sahu
-rw-rw-r-- 1 sahin sahin   48 Jan 19  2022 shan
-rw-rw-r-- 1 sahin sahin   58 Jan 19  2022 tast
drwxr-xr-x 2 sahin sahin 4096 Oct 29  2021 Templates
-rw-rw-r-- 1 sahin sahin   58 Jan 19  2022 test1
drwxr-xr-x 2 sahin sahin 4096 Oct 29  2021 Videos
-rw-rw-r-- 1 sahin sahin  416 Dec  6  2021 vowel.sh
sahin@sahin-VirtualBox:~$ ▮

sahin@sahin-VirtualBox:~$ ps
    PID TTY          TIME CMD
   2216 pts/0    00:00:00 bash
   2224 pts/0    00:00:00 ps
sahin@sahin-VirtualBox:~$

sahin@sahin-VirtualBox:~$ who
sahin    :0           2024-07-22 18:29 (:0)
sahin@sahin-VirtualBox:~$
```

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

```
CP(1)                                    User Commands

NAME
       cp - copy files and directories

SYNOPSIS
       cp [OPTION]... [-T] SOURCE DEST
       cp [OPTION]... SOURCE... DIRECTORY
       cp [OPTION]... -t DIRECTORY SOURCE...

DESCRIPTION
       Copy SOURCE to DEST, or multiple SOURCE(s) to DIRECTORY.

       Mandatory arguments to long options are mandatory for short options too.

       -a, --archive
              same as -dR --preserve=all

       --attributes-only
              don't copy the file data, just the attributes

       --backup[=CONTROL]
              make a backup of each existing destination file

       -b     like --backup but does not accept an argument

       --copy-contents
              copy contents of special files when recursive
 Manual page cp(1) line 1 (press h for help or q to quit)

sahin@sahin-VirtualBox:~$ man cp
sahin@sahin-VirtualBox:~$ whatis cp
cp (1)              - copy files and directories
sahin@sahin-VirtualBox:~$
```

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

```
sahin@sahin-VirtualBox:~$ printf hello
hellosahin@sahin-VirtualBox:~$ echo hello
hello
sahin@sahin-VirtualBox:~$ S
```

9. In the home directory, create a directory MCA2022 inside the MCA2022, create another directory <FirstName_Section_ClassRoll> and get into the directory [-/MCA2022/Ankur_A_00$].

```
sahin@sahin-VirtualBox:~$ mkdir MCA2022
sahin@sahin-VirtualBox:~$ cd MCA2022
sahin@sahin-VirtualBox:~/MCA2022$ mkdir Sahin_B_53
sahin@sahin-VirtualBox:~/MCA2022$ cd Sahin_B_53
sahin@sahin-VirtualBox:~/MCA2022/Sahin_B_53$ pwd
/home/sahin/MCA2022/Sahin_B_53
sahin@sahin-VirtualBox:~/MCA2022/Sahin_B_53$ S
```

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

```
sahin@sahin-VirtualBox:~/MCA2022/Sahin_B_53$ mkdir Unix_File_System
sahin@sahin-VirtualBox:~/MCA2022/Sahin_B_53$ cd Unix_File_System
sahin@sahin-VirtualBox:~/MCA2022/Sahin_B_53/Unix_File_System$ pwd
/home/sahin/MCA2022/Sahin_B_53/Unix_File_System
sahin@sahin-VirtualBox:~/MCA2022/Sahin_B_53/Unix_File_System$
```

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

```
sahin@sahin-VirtualBox:~/MCA2022/Sahin_B_53/Unix_File_System$ mkdir -p TestA/TestA-1 TestA/TestA-2 TestB/TestB-1 Te
stB/TestB-2 TestB/TestB-3 TestC/TestC-1 TestB-2-i
sahin@sahin-VirtualBox:~/MCA2022/Sahin_B_53/Unix_File_System$ tree

Command 'tree' not found, but can be installed with:

sudo apt install tree

sahin@sahin-VirtualBox:~/MCA2022/Sahin_B_53/Unix_File_System$ find .
.
./TestB
./TestB/TestB-3
./TestB/TestB-1
./TestB/TestB-2
./TestC
./TestC/TestC-1
./TestB-2-i
./TestA
./TestA/TestA-2
./TestA/TestA-1
sahin@sahin-VirtualBox:~/MCA2022/Sahin_B_53/Unix_File_System$ S
```

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

```
sahin@sahin-VirtualBox:~/MCA2022/Sahin_B_53/Unix_File_System$ realpath TestB/TestB-2-i/home/sahin/MCA2022/Sahin_B_53/U
nix_File_System/-TestB/TestB-2-i
```