

# OS ASSIGNMENT - 1

1. Create the directory and files for the following structure and write single Unix command for each given instruction:

```
sakshi@sakshi: ~/Desktop/Departments/MECHANICAL/HMT
sakshi@sakshi:~$ cd Desktop
sakshi@sakshi:~/Desktop$ mkdir Departments
sakshi@sakshi:~/Desktop$ cd Departments/
sakshi@sakshi:~/Desktop/Departments$ mkdir COED ELECTRICAL MECHANICAL
sakshi@sakshi:~/Desktop/Departments$ cd COED
sakshi@sakshi:~/Desktop/Departments/COED$ mkdir UnixOs DataStructure
sakshi@sakshi:~/Desktop/Departments/COED$ cd UnixOs
sakshi@sakshi:~/Desktop/Departments/COED/UnixOs$ touch m1.c m2.c m3.c m4.c
sakshi@sakshi:~/Desktop/Departments/COED/UnixOs$ cd ../DataStructure/
sakshi@sakshi:~/Desktop/Departments/COED/DataStructure$ touch c1.txt c2.txt c3.txt
sakshi@sakshi:~/Desktop/Departments/COED/DataStructure$ cd ../ELECTRICAL/
sakshi@sakshi:~/Desktop/Departments/ELECTRICAL$ mkdir LM ATTE CAEE
sakshi@sakshi:~/Desktop/Departments/ELECTRICAL$ cd ATTE/
sakshi@sakshi:~/Desktop/Departments/ELECTRICAL/ATTE$ touch e1.b e2.b e3.b
sakshi@sakshi:~/Desktop/Departments/ELECTRICAL/ATTE$ cd ../MECHANICAL/
sakshi@sakshi:~/Desktop/Departments/MECHANICAL$ mkdir DM HMT MP
sakshi@sakshi:~/Desktop/Departments/MECHANICAL$ cd DM
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/DM$ touch t1.c t2.c tp.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/DM$ cd ../HMT/
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ touch p1.c p2.c pp3.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$
```

2. Display the entire structure.

```
sakshi@sakshi: ~/Desktop/Departments
sakshi@sakshi:~/Desktop/Departments$ tree
.
├── COED
│   ├── DataStructure
│   │   ├── c1.txt
│   │   ├── c2.txt
│   │   └── c3.txt
│   └── UnixOs
│       ├── m1.c
│       ├── m2.c
│       ├── m3.c
│       └── m4.c
├── ELECTRICAL
│   ├── ATTE
│   │   ├── e1.b
│   │   ├── e2.b
│   │   └── e3.b
│   ├── CAEE
│   └── LM
└── MECHANICAL
    ├── DM
    │   ├── t12.c
    │   ├── tp.c
    │   └── tt1.c
    ├── HMT
    │   ├── p1.c
    │   ├── p2.c
    │   └── pp3.c
    └── MP

11 directories, 16 files
sakshi@sakshi:~/Desktop/Departments$
```

3. Assume that you are in Departments directory. Write a command to copy m1.c of UnixOs directory to DM directory.

```
sakshi@sakshi: ~/Desktop/Departments
sakshi@sakshi:~/Desktop/Departments$ cp COED/Unix0s/m1.c MECHANICAL/DM/
sakshi@sakshi:~/Desktop/Departments$ tree
.
├── COED
│   ├── DataStructure
│   │   ├── c1.txt
│   │   ├── c2.txt
│   │   └── c3.txt
│   └── Unix0s
│       ├── m1.c
│       ├── m2.c
│       ├── m3.c
│       └── m4.c
├── ELECTRICAL
│   ├── ATTE
│   │   ├── e1.b
│   │   ├── e2.b
│   │   └── e3.b
│   ├── CAEE
│   └── LM
└── MECHANICAL
    ├── DM
    │   ├── m1.c
    │   ├── t12.c
    │   ├── tp.c
    │   └── tt1.c
    ├── HMT
    │   ├── p1.c
    │   ├── p2.c
    │   └── pp3.c
    └── MP

11 directories, 17 files
sakshi@sakshi:~/Desktop/Departments$
```

4. Assume that you are in Data Structure directory. Write a command to copy file e2.b from ATTE to LM .

```
sakshi@sakshi: ~/Desktop/Departments
sakshi@sakshi:~/Desktop/Departments/COED/DataStructure$ cp ../../ELECTRICAL/ATTE/e2.b ../../ELECTRICAL/LM/
sakshi@sakshi:~/Desktop/Departments/COED/DataStructure$ cd ../../
sakshi@sakshi:~/Desktop/Departments$ tree
.
├── COED
│   ├── DataStructure
│   │   ├── c1.txt
│   │   ├── c2.txt
│   │   └── c3.txt
│   └── Unix0s
│       ├── m1.c
│       ├── m2.c
│       ├── m3.c
│       └── m4.c
├── ELECTRICAL
│   ├── ATTE
│   │   ├── e1.b
│   │   ├── e2.b
│   │   └── e3.b
│   ├── CAEE
│   └── LM
│       └── e2.b
└── MECHANICAL
    ├── DM
    │   ├── m1.c
    │   ├── t12.c
    │   ├── tp.c
    │   └── tt1.c
    ├── HMT
    │   ├── p1.c
    │   ├── p2.c
    │   └── pp3.c
    └── MP

11 directories, 18 files
sakshi@sakshi:~/Desktop/Departments$
```

5. Assume that you are in HMT directory. Copy all files of HMT directory, having 3 characters filename, to MP directory.

```
sakshi@sakshi: ~/Desktop/Departments/MECHANICAL

sakshi@sakshi:~/Desktop/Departments$ cd MECHANICAL/HMT
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ cp ???.* ../MP/
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ cd ..
sakshi@sakshi:~/Desktop/Departments/MECHANICAL$ tree
.
├── DM
│   ├── m1.c
│   ├── t12.c
│   ├── tp.c
│   └── tt1.c
├── HMT
│   ├── p1.c
│   ├── p2.c
│   └── pp3.c
└── MP
    └── pp3.c

3 directories, 8 files
sakshi@sakshi:~/Desktop/Departments/MECHANICAL$
```

6. Assume that you are in Departments directory. Copy all files of COED directory having first character "c" in name to CAEE directory.

```
sakshi@sakshi: ~/Desktop/Departments

sakshi@sakshi:~/Desktop/Departments/MECHANICAL$ cd ..
sakshi@sakshi:~/Desktop/Departments$ cp COED/*/[c]* ELECTRICAL/CAEE
sakshi@sakshi:~/Desktop/Departments$ tree
.
├── COED
│   ├── DataStructure
│   │   ├── c1.txt
│   │   ├── c2.txt
│   │   └── c3.txt
│   └── UnixOs
│       ├── m1.c
│       ├── m2.c
│       ├── m3.c
│       └── m4.c
├── ELECTRICAL
│   ├── ATTE
│   │   ├── e1.b
│   │   ├── e2.b
│   │   └── e3.b
│   ├── CAEE
│   │   ├── c1.txt
│   │   ├── c2.txt
│   │   └── c3.txt
│   ├── LM
│   │   └── e2.b
├── MECHANICAL
│   ├── DM
│   │   ├── m1.c
│   │   ├── t12.c
│   │   ├── tp.c
│   │   └── tt1.c
│   ├── HMT
│   │   ├── p1.c
│   │   ├── p2.c
│   │   └── pp3.c
│   └── MP
│       └── pp3.c
└── 11 directories, 22 files
sakshi@sakshi:~/Desktop/Departments$
```

7. Change the name of file tp.c of to ctp.c.

```
sakshi@sakshi: ~/Desktop/Departments/MECHANICAL/DM

sakshi@sakshi:~/Desktop/Departments$ cd MECHANICAL/DM
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/DM$ tree
.
├── m1.c
├── t12.c
├── tp.c
└── tt1.c

0 directories, 4 files
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/DM$ mv tp.c ctp.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/DM$ tree
.
├── ctp.c
├── m1.c
├── t12.c
└── tt1.c

0 directories, 4 files
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/DM$
```

8. Rename e1.b to e1.c.

```
sakshi@sakshi: ~/Desktop/Departments/ELECTRICAL/ATTE

sakshi@sakshi:~/Desktop/Departments/MECHANICAL/DM$ cd ../../
sakshi@sakshi:~/Desktop/Departments$ cd ELECTRICAL/ATTE/
sakshi@sakshi:~/Desktop/Departments/ELECTRICAL/ATTE$ mv e1.b e1.c
sakshi@sakshi:~/Desktop/Departments/ELECTRICAL/ATTE$ tree
.
├── e1.c
├── e2.b
└── e3.b

0 directories, 3 files
sakshi@sakshi:~/Desktop/Departments/ELECTRICAL/ATTE$
```

## 9. Delete file having second char. p of HMT directory.

```
sakshi@sakshi: ~/Desktop/Departments/MECHANICAL/HMT

sakshi@sakshi:~/Desktop/Departments/ELECTRICAL/ATTE$ cd ../../
sakshi@sakshi:~/Desktop/Departments$ cd MECHANICAL/HMT/
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ rm ?p*
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ tree
.
├── p1.c
└── p2.c

0 directories, 2 files
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$
```

## 10.Assume that you are in ELECTRICAL directory delete m1.c of DM directory.

```
sakshi@sakshi: ~/Desktop/Departments/MECHANICAL

sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ cd ../../
sakshi@sakshi:~/Desktop/Departments$ cd ELECTRICAL/
sakshi@sakshi:~/Desktop/Departments/ELECTRICAL$ rm ../MECHANICAL/DM/m1.c
sakshi@sakshi:~/Desktop/Departments/ELECTRICAL$ cd ../MECHANICAL/
sakshi@sakshi:~/Desktop/Departments/MECHANICAL$ tree
.
├── DM
│   ├── ctp.c
│   ├── ti2.c
│   └── tt1.c
├── HMT
│   ├── p1.c
│   └── p2.c
└── MP
    └── pp3.c

3 directories, 6 files
sakshi@sakshi:~/Desktop/Departments/MECHANICAL$
```

## 11.Assume that you are in MECHANICAL directory. Delete all files of Unix Os directory having 2 characters in filename.

```
sakshi@sakshi: ~/Desktop/Departments/COED/UnixOs

sakshi@sakshi:~/Desktop/Departments/MECHANICAL$ rm ../COED/UnixOs/??.*
sakshi@sakshi:~/Desktop/Departments/MECHANICAL$ cd ..
sakshi@sakshi:~/Desktop/Departments$ cd COED/UnixOs/
sakshi@sakshi:~/Desktop/Departments/COED/UnixOs$ tree
.

0 directories, 0 files
sakshi@sakshi:~/Desktop/Departments/COED/UnixOs$
```

## 12.You are in MP. Directory, display the current directory path.

```
sakshi@sakshi: ~/Desktop/Departments/MECHANICAL/MP

sakshi@sakshi:~/Desktop/Departments/COED/UnixOs$ cd ../../
sakshi@sakshi:~/Desktop/Departments$ cd MECHANICAL/MP
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/MP$ pwd
/home/sakshi/Desktop/Departments/MECHANICAL/MP
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/MP$
```

## 13.Remove UnixOs directory

```
sakshi@sakshi: ~/Desktop/Departments/COED

sakshi@sakshi:~/Desktop/Departments/MECHANICAL/MP$ cd ../../
sakshi@sakshi:~/Desktop/Departments$ cd COED/
sakshi@sakshi:~/Desktop/Departments/COED$ rm -r UnixOs/
sakshi@sakshi:~/Desktop/Departments/COED$ tree
.
├── DataStructure
│   ├── c1.txt
│   ├── c2.txt
│   └── c3.txt
└──

1 directory, 3 files
sakshi@sakshi:~/Desktop/Departments/COED$
```

## 14.Display current date and time.

```
sakshi@sakshi: ~/Desktop/Departments/COED

sakshi@sakshi:~/Desktop/Departments/COED$ date '+%D%X'
07/27/2104:38:57 PM IST
sakshi@sakshi:~/Desktop/Departments/COED$
```

## 15.Display content of file c3 with page break.

```
sakshi@sakshi: ~/Desktop/Departments/ELECTRICAL/CAEE

sakshi@sakshi:~/Desktop/Departments$ tree
.
├── COED
│   ├── DataStructure
│   │   ├── c1.txt
│   │   ├── c2.txt
│   │   └── c3.txt
│   ├── ELECTRICAL
│   │   ├── ATTE
│   │   │   ├── e1.c
│   │   │   ├── e2.b
│   │   │   └── e3.b
│   │   ├── CAEE
│   │   │   ├── c1.txt
│   │   │   ├── c2.txt
│   │   │   └── c3.txt
│   │   ├── LM
│   │   │   └── e2.b
│   │   └── MECHANICAL
│   │       ├── DM
│   │       │   ├── ctp.c
│   │       │   ├── tt2.c
│   │       │   └── tt1.c
│   │       ├── HMT
│   │       │   ├── p1.c
│   │       │   └── p2.c
│   │       └── MP
│   │           └── pp3.c
└──

10 directories, 16 files
sakshi@sakshi:~/Desktop/Departments$ cd ELECTRICAL/CAEE/
sakshi@sakshi:~/Desktop/Departments/ELECTRICAL/CAEE$ less c3.txt
sakshi@sakshi:~/Desktop/Departments/ELECTRICAL/CAEE$
```

(END)

## 16. Change the permissions of file p2.c to different modes possible

Using the numeric mode, we can assign numbers to each permission. For example:

4 = r (read)

2 = w (write)

1 = x (execute)

7	read, write, and execute ("rwx")	$4 + 2 + 1 = 7$
6	read and write ("rw-")	$4 + 2 = 6$
5	read and execute ("r-x")	$4 + 0 + 1 = 5$
4	read only ("r--")	$4 + 0 + 0 = 4$
3	write and execute (rare) ("-wx")	$0 + 2 + 1 = 3$
2	write only (rare) ("-w-")	$0 + 2 + 0 = 2$
1	execute only (rare) ("--x")	$0 + 0 + 1 = 1$
0	no permissions ("---")	$0 + 0 + 0 = 0$

A few permissions added are ->

```
sakshi@sakshi: ~/Desktop/Departments
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ ls -l p2.c
-rw-rw-r-- 1 sakshi sakshi 0 Jul 27 16:19 p2.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ chmod 444 p2.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ ls -l p2.c
-r--r--r-- 1 sakshi sakshi 0 Jul 27 16:19 p2.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ chmod 222 p2.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ ls -l p2.c
--w--w--w- 1 sakshi sakshi 0 Jul 27 16:19 p2.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ chmod 311 p2.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ ls -l p2.c
--wx--x--x 1 sakshi sakshi 0 Jul 27 16:19 p2.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ chmod 576 p2.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ ls -l p2.c
-r-xrwxr-- 1 sakshi sakshi 0 Jul 27 16:19 p2.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ chmod g-w p2.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ ls -l p2.c
-r-xr-xrw- 1 sakshi sakshi 0 Jul 27 16:19 p2.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ chmod u+w p2.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ ls -l p2.c
-rwxr-xrw- 1 sakshi sakshi 0 Jul 27 16:19 p2.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ chmod u-wx p2.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ ls -l p2.c
-r--r-xrw- 1 sakshi sakshi 0 Jul 27 16:19 p2.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ chmod o-rw p2.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ ls -l p2.c
-r--r-x--- 1 sakshi sakshi 0 Jul 27 16:19 p2.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ chmod 777 p2.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$ ls -l p2.c
-rwxrwxrwx 1 sakshi sakshi 0 Jul 27 16:19 p2.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/HMT$
```

## 17. You are in root directory, display the all filename of MP directory.

```
sakshi@sakshi: ~/Desktop/Departments/MECHANICAL/MP
sakshi@sakshi:~/Desktop/Departments$ tree
.
├── COED
│   └── DataStructure
│       ├── c1.txt
│       ├── c2.txt
│       └── c3.txt
├── ELECTRICAL
│   ├── ATTE
│   │   ├── e1.c
│   │   ├── e2.b
│   │   └── e3.b
│   ├── CAEE
│   │   ├── c1.txt
│   │   ├── c2.txt
│   │   └── c3.txt
│   └── LM
│       └── e2.b
└── MECHANICAL
    ├── DH
    │   ├── ctp.c
    │   ├── t12.c
    │   └── tt1.c
    ├── HMT
    │   ├── p1.c
    │   └── p2.c
    └── MP
        └── pp3.c

10 directories, 16 files
sakshi@sakshi:~/Desktop/Departments$ cd MECHANICAL/MP
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/MP$ ls -la
.  ..  pp3.c
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/MP$
```

18. Clear all the screen on which u work.

```
sakshi@sakshi:~/Desktop/Departments/MECHANICAL/MP$ clear
```