

ADVANCED OPERATING SYSTEM

ASSIGNMENT

GROUP O MEMBERS

PS/CSC/22/0093

PS/CSC/22/0063

PS/CSC/22/0097

PS/CSC/22/0177

PS/CSC/22/0006

PS/CSC/22/0101

PS/CSC/22/0026

PS/CSC/22/0103

PS/CSC/22/0205

PS/CSC/22/0164

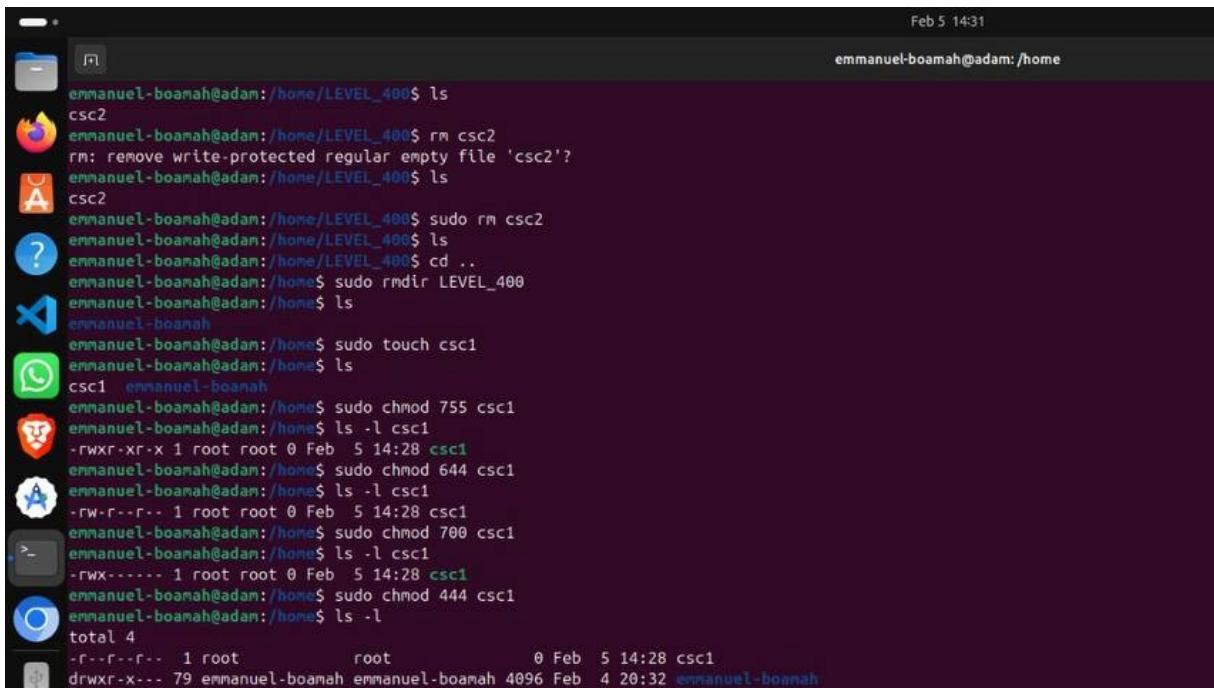
EXERCISE ONE

The screenshot shows a terminal window with a dark background. At the top right, it says "Feb 5 14:28" and "emmanuel-boamah@adam:/home". The terminal window contains the following text:

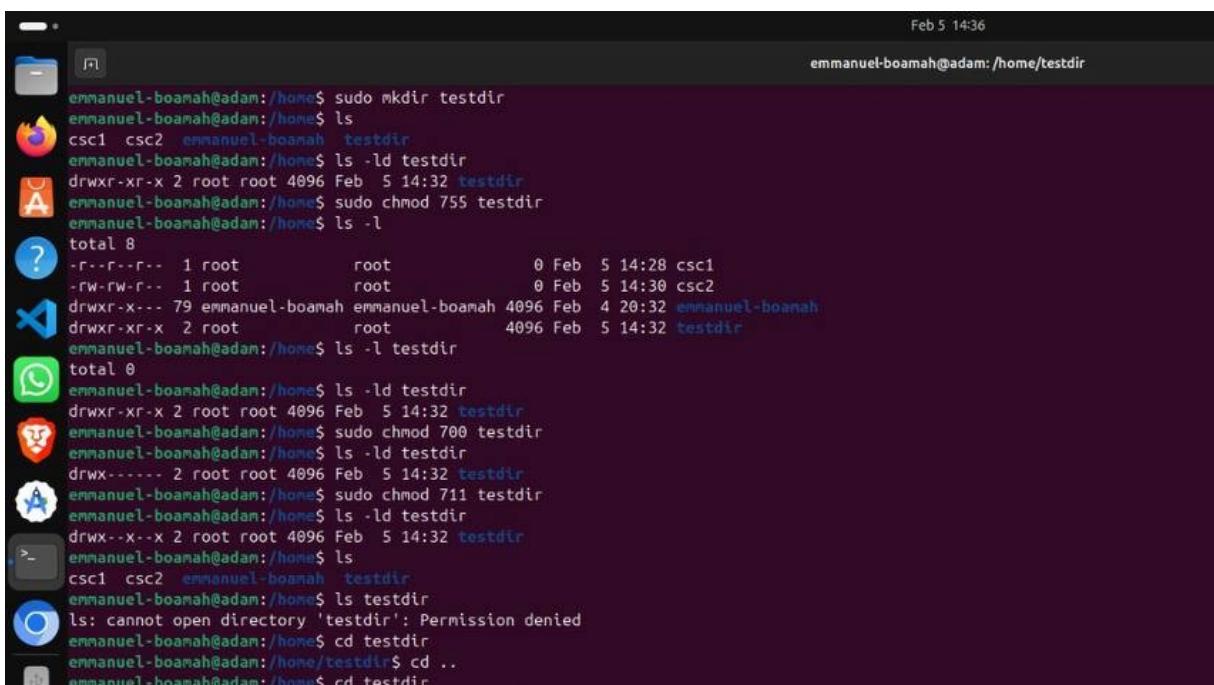
```
emmanuel-boamah@adam:~$ pwd
/home/emmanuel-boamah
emmanuel-boamah@adam:~$ cd /home
emmanuel-boamah@adam:/home$ mkdir LEVEL_400
mkdir: cannot create directory 'LEVEL_400': Permission denied
emmanuel-boamah@adam:/home$ sudo mkdir LEVEL_400
[sudo] password for emmanuel-boamah:
Sorry, try again.
[sudo] password for emmanuel-boamah:
emmanuel-boamah@adam:/home$ ls
emmanuel-boamah@adam:/home$ LEVEL_400
emmanuel-boamah@adam:/home$ cd LEVEL_400
emmanuel-boamah@adam:/home/LEVEL_400$ sudo touch csc1
emmanuel-boamah@adam:/home/LEVEL_400$ ls
csc1
emmanuel-boamah@adam:/home/LEVEL_400$ ls -l
total 0
-rw-r--r-- 1 root root 0 Feb  5 14:25 csc1
emmanuel-boamah@adam:/home/LEVEL_400$ cat csc1
emmanuel-boamah@adam:/home/LEVEL_400$ sudo mv csc1 csc2
emmanuel-boamah@adam:/home/LEVEL_400$ ls
csc2
emmanuel-boamah@adam:/home/LEVEL_400$ rm csc2
rm: remove write-protected regular empty file 'csc2'?
emmanuel-boamah@adam:/home/LEVEL_400$ ls
emmanuel-boamah@adam:/home/LEVEL_400$ sudo rm csc2
emmanuel-boamah@adam:/home/LEVEL_400$ ls
emmanuel-boamah@adam:/home/LEVEL_400$ cd ..
```

The terminal window has a decorative border with various icons (file, folder, question mark, etc.) around the edges.

EXERCISE TWO



Feb 5 14:31
emmanuel-boamah@adam:/home
emmanuel-boamah@adam:/home/LEVEL_400\$ ls
csc2
emmanuel-boamah@adam:/home/LEVEL_400\$ rm csc2
rm: remove write-protected regular empty file 'csc2'?
emmanuel-boamah@adam:/home/LEVEL_400\$ ls
csc2
emmanuel-boamah@adam:/home/LEVEL_400\$ sudo rm csc2
emmanuel-boamah@adam:/home/LEVEL_400\$ ls
emmanuel-boamah@adam:/home/LEVEL_400\$ cd ..
emmanuel-boamah@adam:/home\$ sudo rmdir LEVEL_400
emmanuel-boamah@adam:/home\$ ls
emmanuel-boamah
emmanuel-boamah@adam:/home\$ sudo touch csc1
emmanuel-boamah@adam:/home\$ ls
csc1 emmanuel-boamah
emmanuel-boamah@adam:/home\$ sudo chmod 755 csc1
emmanuel-boamah@adam:/home\$ ls -l csc1
-rwxr-xr-x 1 root root 0 Feb 5 14:28 csc1
emmanuel-boamah@adam:/home\$ sudo chmod 644 csc1
emmanuel-boamah@adam:/home\$ ls -l csc1
-rw-r--r-- 1 root root 0 Feb 5 14:28 csc1
emmanuel-boamah@adam:/home\$ sudo chmod 700 csc1
emmanuel-boamah@adam:/home\$ ls -l csc1
-rwx----- 1 root root 0 Feb 5 14:28 csc1
emmanuel-boamah@adam:/home\$ sudo chmod 444 csc1
emmanuel-boamah@adam:/home\$ ls -l
total 4
-r--r--r-- 1 root root 0 Feb 5 14:28 csc1
drwxr-x--- 79 emmanuel-boamah emmanuel-boamah 4096 Feb 4 20:32 emmanuel-boamah



Feb 5 14:36
emmanuel-boamah@adam:/home
emmanuel-boamah@adam:/home\$ sudo mkdir testdir
emmanuel-boamah@adam:/home\$ ls
csc1 csc2 emmanuel-boamah testdir
emmanuel-boamah@adam:/home\$ ls -ld testdir
drwxr-xr-x 2 root root 4096 Feb 5 14:32 testdir
emmanuel-boamah@adam:/home\$ sudo chmod 755 testdir
emmanuel-boamah@adam:/home\$ ls -l
total 8
-r--r--r-- 1 root root 0 Feb 5 14:28 csc1
-rw-rw-r-- 1 root root 0 Feb 5 14:30 csc2
drwxr-x--- 79 emmanuel-boamah emmanuel-boamah 4096 Feb 4 20:32 emmanuel-boamah
drwxr-xr-x 2 root root 4096 Feb 5 14:32 testdir
emmanuel-boamah@adam:/home\$ ls -l testdir
total 0
emmanuel-boamah@adam:/home\$ ls -ld testdir
drwxr-xr-x 2 root root 4096 Feb 5 14:32 testdir
emmanuel-boamah@adam:/home\$ sudo chmod 700 testdir
emmanuel-boamah@adam:/home\$ ls -ld testdir
drwx----- 2 root root 4096 Feb 5 14:32 testdir
emmanuel-boamah@adam:/home\$ sudo chmod 711 testdir
emmanuel-boamah@adam:/home\$ ls -ld testdir
drwxr-xr-x 2 root root 4096 Feb 5 14:32 testdir
emmanuel-boamah@adam:/home\$ ls
csc1 csc2 emmanuel-boamah testdir
emmanuel-boamah@adam:/home\$ ls testdir
ls: cannot open directory 'testdir': Permission denied
emmanuel-boamah@adam:/home\$ cd testdir
emmanuel-boamah@adam:/home/testdir\$ cd ..
emmanuel-boamah@adam:/home\$ cd testdir

```
Feb 5 14:45  
emmanuel-boamah@adam:/home  
  
emmanuel-boamah@adam:/home/testdir$ cat script.sh  
#!/bin/bash  
echo "hello this is my script"  
emmanuel-boamah@adam:/home/testdir$ sudo chmod 750 script.sh  
emmanuel-boamah@adam:/home/testdir$ ls -ld  
drwx--x--x 2 root root 4096 Feb 5 14:37 .  
emmanuel-boamah@adam:/home/testdir$ stat script.sh  
  File: script.sh  
  Size: 43          Blocks: 8           IO Block: 4096   regular file  
Device: 8,4      Inode: 786437      Links: 1  
Access: (0750/-rwxr-x---)  Uid: (    0/    root)  Gid: (    0/    root)  
Access: 2026-02-05 14:37:37.861917684 +0000  
Modify: 2026-02-05 14:37:31.887918131 +0000  
Change: 2026-02-05 14:38:35.111913399 +0000  
 Birth: 2026-02-05 14:35:35.944926809 +0000  
emmanuel-boamah@adam:/home/testdir$ ./script.sh  
.script.sh: command not found  
emmanuel-boamah@adam:/home/testdir$ cd ..  
emmanuel-boamah@adam:/home$ ./testdir/script.sh  
bash: ./testdir/script.sh: Permission denied  
emmanuel-boamah@adam:/home$ sudo ./testdir/script.sh  
hello this is my script  
-> emmanuel-boamah@adam:/home$ sudo chmod 754 testdir/script.sh  
emmanuel-boamah@adam:/home$ ls -ld  
drwxr-xr-x 4 root root 4096 Feb 5 14:32 .  
emmanuel-boamah@adam:/home$ ls -l testdir/script.sh  
-rwxr-xr-- 1 root root 43 Feb 5 14:37 testdir/script.sh  
emmanuel-boamah@adam:/home$ sudo chmod 755 testdir/script.sh  
emmanuel-boamah@adam:/home$ ls -l testdir/script.sh
```

```
Feb 5 14:49  
emmanuel-boamah@adam:/home  
  
Birth: 2026-02-05 14:35:35.944926809 +0000  
emmanuel-boamah@adam:/home/testdir$ ./script.sh  
.script.sh: command not found  
emmanuel-boamah@adam:/home/testdir$ cd ..  
emmanuel-boamah@adam:/home$ ./testdir/script.sh  
bash: ./testdir/script.sh: Permission denied  
emmanuel-boamah@adam:/home$ sudo ./testdir/script.sh  
hello this is my script  
-> emmanuel-boamah@adam:/home$ sudo chmod 754 testdir/script.sh  
emmanuel-boamah@adam:/home$ ls -ld  
drwxr-xr-x 4 root root 4096 Feb 5 14:32 .  
emmanuel-boamah@adam:/home$ ls -l testdir/script.sh  
-rwxr-xr-- 1 root root 43 Feb 5 14:37 testdir/script.sh  
emmanuel-boamah@adam:/home$ sudo chmod 755 testdir/script.sh  
emmanuel-boamah@adam:/home$ ls -l testdir/script.sh  
-rwxr-xr-x 1 root root 43 Feb 5 14:37 testdir/script.sh  
emmanuel-boamah@adam:/home$ find testdir --executable  
find: unknown predicate '--executable'  
emmanuel-boamah@adam:/home$ find testdir -executable  
testdir  
find: 'testdir': Permission denied  
emmanuel-boamah@adam:/home$ sudo find testdir -executable  
testdir  
testdir/script.sh  
emmanuel-boamah@adam:/home$ sudo find testdir -executable | wc -l  
2  
emmanuel-boamah@adam:/home$ ls -l testdir | grep "^[ -d]" | awk '{print $1}'  
ls: cannot open directory '/testdir': Permission denied  
emmanuel-boamah@adam:/home$ sudo ls -l testdir | grep "^[ -d]" | awk '{print $1}'
```