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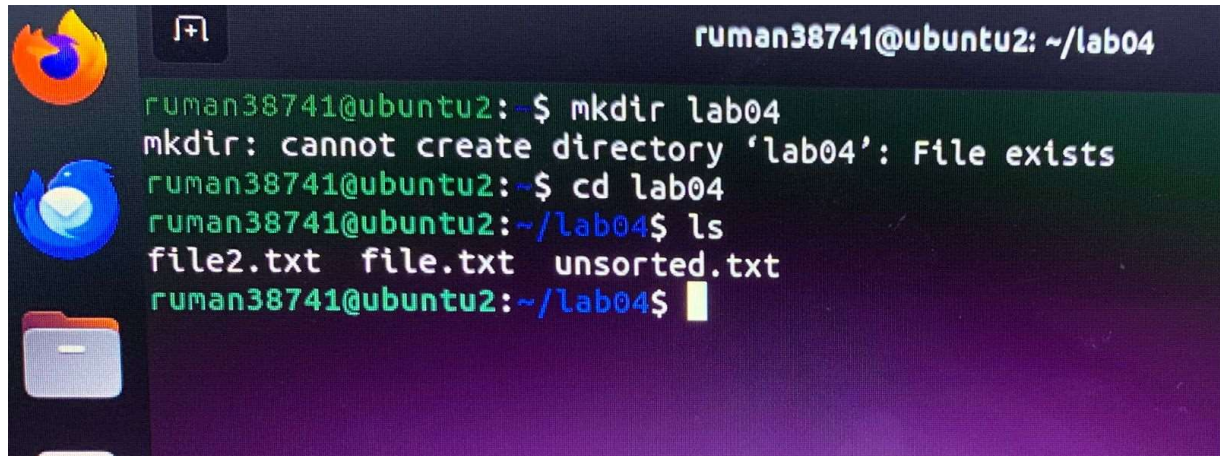
Sap I`d : 55633

Section : BS SE (5 – 2)

Course : Operating System Lab

Lab 4 Tasks:

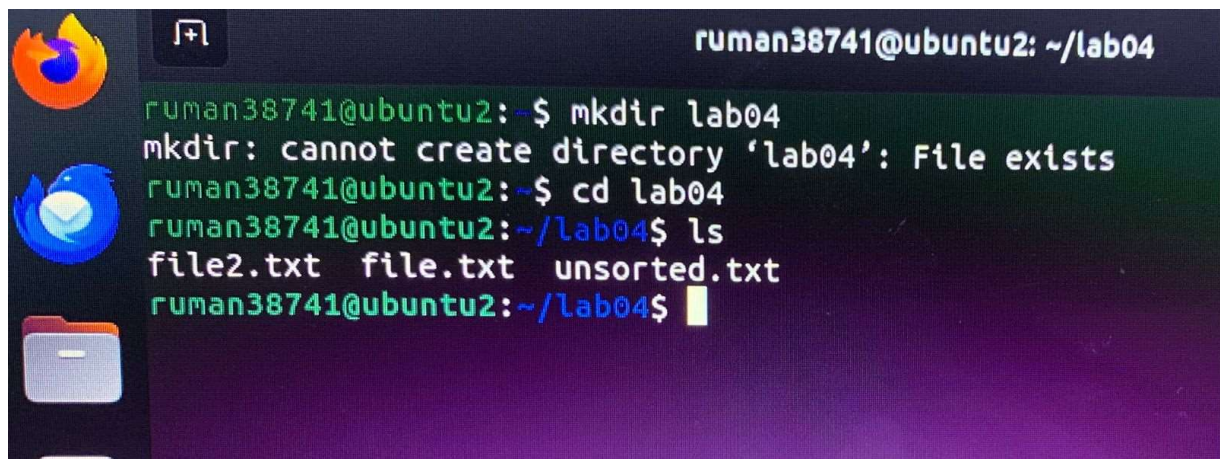
Tasks 1:

A terminal window with a dark background and a light blue title bar. The title bar contains the text 'ruman38741@ubuntu2: ~/lab04'. The terminal shows the following commands and output:

```
ruman38741@ubuntu2:~$ mkdir lab04
mkdir: cannot create directory 'lab04': File exists
ruman38741@ubuntu2:~$ cd lab04
ruman38741@ubuntu2:~/lab04$ ls
file2.txt  file.txt  unsorted.txt
ruman38741@ubuntu2:~/lab04$
```

On the left side of the terminal window, there are three icons: a Firefox logo, a Thunderbird logo, and a file manager icon.

Tasks 2:

A terminal window with a dark background and a light blue title bar. The title bar contains the text 'ruman38741@ubuntu2: ~/lab04'. The terminal shows the following commands and output:

```
ruman38741@ubuntu2:~$ mkdir lab04
mkdir: cannot create directory 'lab04': File exists
ruman38741@ubuntu2:~$ cd lab04
ruman38741@ubuntu2:~/lab04$ ls
file2.txt  file.txt  unsorted.txt
ruman38741@ubuntu2:~/lab04$
```

On the left side of the terminal window, there are three icons: a Firefox logo, a Thunderbird logo, and a file manager icon.

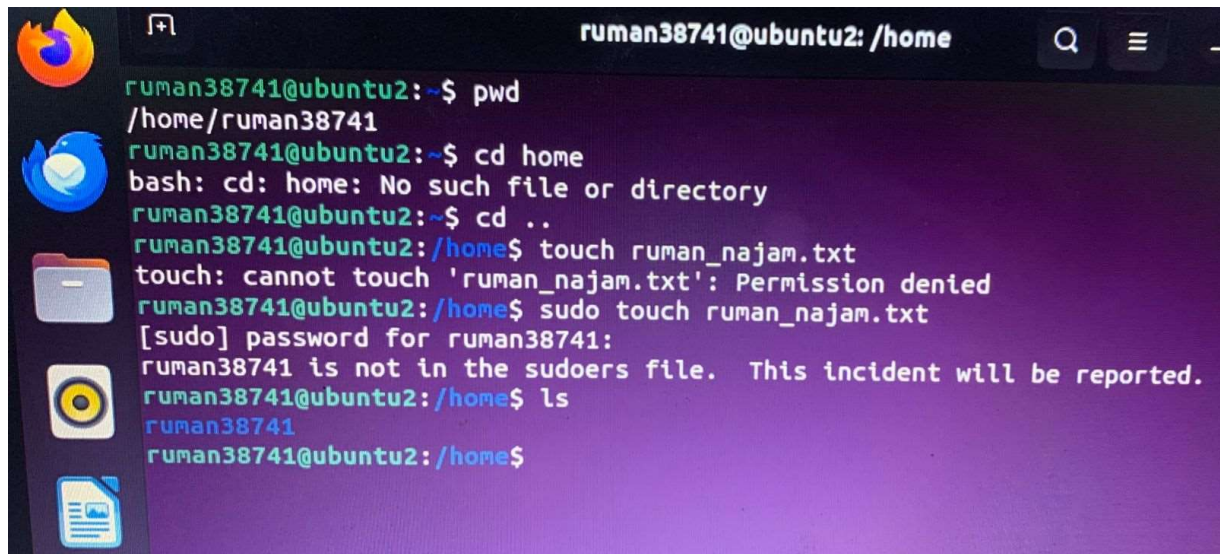
Tasks 3:

```
ruman38741@ubuntu2: ~/lab04
ruman38741@ubuntu2:~$ mkdir lab04
mkdir: cannot create directory 'lab04': File exists
ruman38741@ubuntu2:~$ cd lab04
ruman38741@ubuntu2:~/lab04$ ls
file2.txt  file.txt  unsorted.txt
ruman38741@ubuntu2:~/lab04$ touch 38741.txt
ruman38741@ubuntu2:~/lab04$ sudo touch 38741.txt
[sudo] password for ruman38741:
ruman38741 is not in the sudoers file.  This incident will be reported.
ruman38741@ubuntu2:~/lab04$ ls
38741.txt  file2.txt  file.txt  unsorted.txt
ruman38741@ubuntu2:~/lab04$
```

Tasks 4:

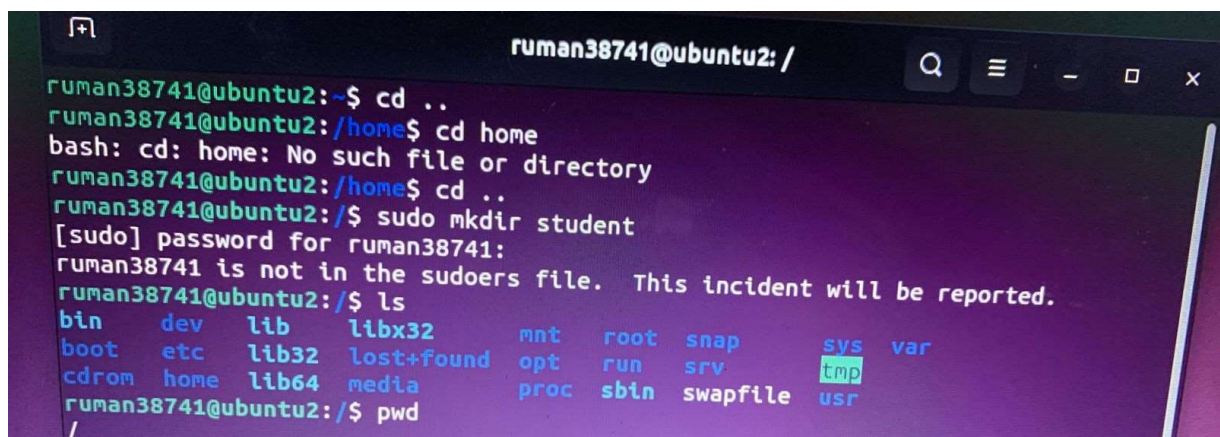
```
ruman38741 is not in the sudoers file.  This incident will be reported.
ruman38741@ubuntu2:~/lab04$ ls
38741.txt  file2.txt  file.txt  unsorted.txt
ruman38741@ubuntu2:~/lab04$ cat<38741.txt
ruman38741@ubuntu2:~/lab04$ cat<38741.txt
ruman38741@ubuntu2:~/lab04$ ls
38741.txt  file2.txt  file.txt  unsorted.txt
ruman38741@ubuntu2:~/lab04$ ls
38741.txt  file2.txt  file.txt  unsorted.txt
ruman38741@ubuntu2:~/lab04$ cat>38741.txt
my name
is ruman
from riphah
bsse
fc dept
ruman38741@ubuntu2:~/lab04$ cat<38741.txt
my name
is ruman
from riphah
bsse
fc dept
```

Tasks 5:

A terminal window titled 'ruman38741@ubuntu2: /home' with a search icon and a menu icon. The user 'ruman38741' is at the prompt. They run 'pwd' and get '/home/ruman38741'. Then they run 'cd home' and get an error 'bash: cd: home: No such file or directory'. They run 'cd ..' and get '/home'. Then they run 'touch ruman_najam.txt' and get an error 'touch: cannot touch 'ruman_najam.txt': Permission denied'. They run 'sudo touch ruman_najam.txt' and get a password prompt, then a message 'ruman38741 is not in the sudoers file. This incident will be reported.'. Finally, they run 'ls' and get the output 'ruman38741' and 'ruman38741@ubuntu2: /home\$'.

```
ruman38741@ubuntu2:~$ pwd
/home/ruman38741
ruman38741@ubuntu2:~$ cd home
bash: cd: home: No such file or directory
ruman38741@ubuntu2:~$ cd ..
ruman38741@ubuntu2:/home$ touch ruman_najam.txt
touch: cannot touch 'ruman_najam.txt': Permission denied
ruman38741@ubuntu2:/home$ sudo touch ruman_najam.txt
[sudo] password for ruman38741:
ruman38741 is not in the sudoers file. This incident will be reported.
ruman38741@ubuntu2:/home$ ls
ruman38741
ruman38741@ubuntu2:/home$
```

Tasks 6:

A terminal window titled 'ruman38741@ubuntu2: /' with a search icon, a menu icon, and window control icons. The user 'ruman38741' is at the prompt. They run 'cd ..' and get '/home'. Then they run 'cd home' and get an error 'bash: cd: home: No such file or directory'. They run 'cd ..' and get '/'. Then they run 'sudo mkdir student' and get a password prompt, then a message 'ruman38741 is not in the sudoers file. This incident will be reported.'. Finally, they run 'ls' and get the output of the directory listing.

```
ruman38741@ubuntu2:~$ cd ..
ruman38741@ubuntu2:/home$ cd home
bash: cd: home: No such file or directory
ruman38741@ubuntu2:/home$ cd ..
ruman38741@ubuntu2:/$ sudo mkdir student
[sudo] password for ruman38741:
ruman38741 is not in the sudoers file. This incident will be reported.
ruman38741@ubuntu2:/$ ls
bin      dev      lib      libx32  mnt      root     snap     sys      var
boot     etc      lib32    lost+found  opt      run      srv      tmp
cdrom    home     lib64    media    proc     sbin     swapfile usr
ruman38741@ubuntu2:/$ pwd
/
```

Tasks 7:

```

touch students.txt pstudent.txt fstudents.txt
ls -l

# 2. Assign read-only permission (numeric + symbolic)
chmod 400 students.txt pstudent.txt fstudents.txt
chmod u=r students.txt pstudent.txt fstudents.txt
ls -l

# 3. Debug permissions for writing + enter names
chmod u+rw pstudent.txt fstudents.txt
echo -e "Ali\nBilal\nSara\nUsman\nHina\nTariq\nRida\nAhmed\nIqra\nFaisal" > pstudent.txt
echo -e "Ayesha\nZara\nOmar\nNida\nSameer\nShahid\nLubna\nImran\nMaira\nYasir" > fstudents.txt
cat pstudent.txt
cat fstudents.txt

```

Tasks 8:

```

cat fstudents.txt

# 4. Create directory RIPHAH + assign read-only (numeric + symbolic)
mkdir RIPHAH
chmod 440 RIPHAH
chmod ug=r RIPHAH
ls -ld RIPHAH

# 5. Copy files to RIPHAH (debug permissions if error occurs)
chmod ug+wx RIPHAH
cp students.txt pstudent.txt fstudents.txt RIPHAH/
ls -l RIPHAH

# 6. Append students.txt with sorted names
sort pstudent.txt | head -n 5 >> students.txt
sort fstudents.txt | tail -n 5 >> students.txt

```


Tasks 9:

```
chmod 600 pstudent.txt fstudents.txt
chmod u=r students.txt
chmod u=rw pstudent.txt fstudents.txt
ls -l

# 9. Try appending another student (will give error)
echo "Zubair" >> students.txt

# 10. Display contents of all files
cat students.txt
cat pstudent.txt
cat fstudents.txt

# 11. Show permissions + contents of files inside RIPHAH
ls -l RIPHAH
cat RIPHAH/students.txt
cat RIPHAH/pstudent.txt
cat RIPHAH/fstudents.txt
```

THE END :