

CSE321

OPERATING SYSTEMS

LAB ASSIGNMENT 01 & 02

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ID: 21101098

SECTION: 07

LINUX SHELL COMMANDS

TASK_A

#CREATING FOUR FILES AND TWO DIRECTORIES

```
shaianebaroi@shaianebaroi:~/Desktop/LAB$ pwd

/home/shaianebaroi/Desktop/LAB

shaianebaroi@shaianebaroi:~/Desktop/LAB$ touch 21101098_1.txt
shaianebaroi@shaianebaroi:~/Desktop/LAB$ touch 21101098_2.txt
shaianebaroi@shaianebaroi:~/Desktop/LAB$ touch 21101098_3.txt
shaianebaroi@shaianebaroi:~/Desktop/LAB$ touch 21101098_4.txt
shaianebaroi@shaianebaroi:~/Desktop/LAB$ mkdir Shaiane1
shaianebaroi@shaianebaroi:~/Desktop/LAB$ mkdir Shaiane2
shaianebaroi@shaianebaroi:~/Desktop/LAB$
```

#MOVING TWO FILES TO THE DIRECTORY

```
shaianebaroi@shaianebaroi:~/Desktop/LAB$ mv 21101098_1.txt
Shaiane1

shaianebaroi@shaianebaroi:~/Desktop/LAB$ mv 21101098_2.txt
Shaiane1

shaianebaroi@shaianebaroi:~/Desktop/LAB$ mv 21101098_3.txt
Shaiane1

shaianebaroi@shaianebaroi:~/Desktop/LAB$
```

#COPYING TWO FILES TO THE DIRECTORY

```
shaianebaroi@shaianebaroi:~/Desktop/LAB$ cp
~/Desktop/LAB/Shaiane1/21101098_1.txt Shaiane2/

shaianebaroi@shaianebaroi:~/Desktop/LAB$ cp
~/Desktop/LAB/Shaiane1/21101098_2.txt Shaiane2/

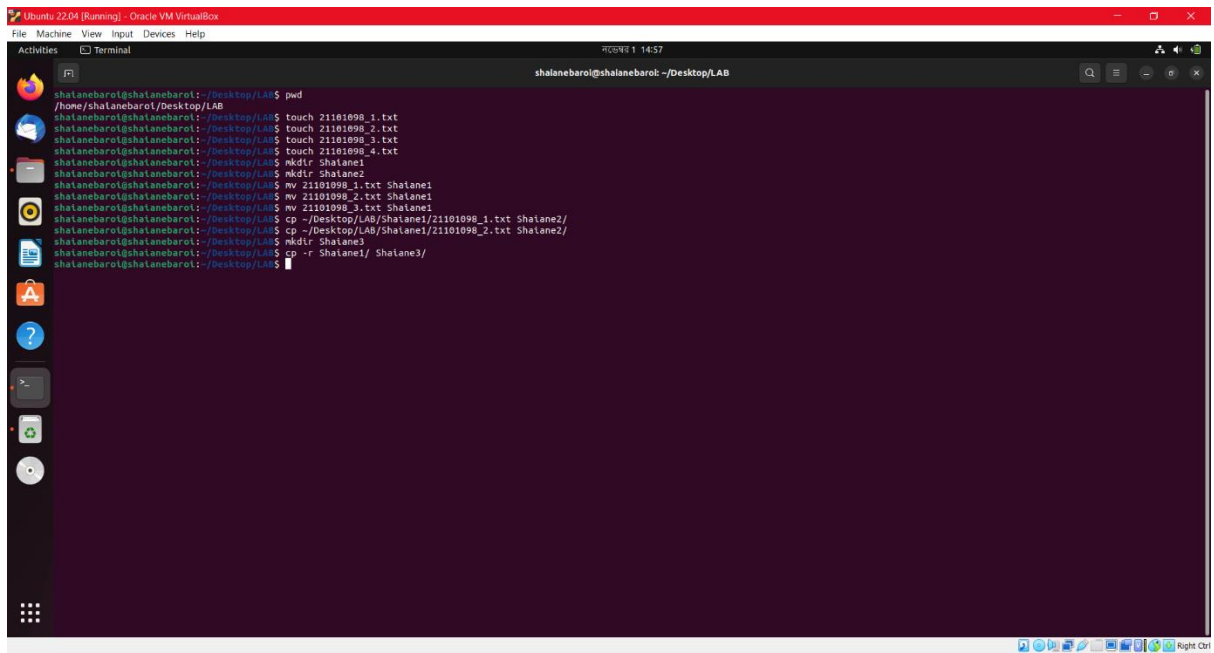
shaianebaroi@shaianebaroi:~/Desktop/LAB$
```

#CREATING ANOTHER DIRECTORY AND COPYING ONE DIRECTORY TO THE NEWLY CREATED OTHER DIRECTORY

```
shaianebaroi@shaianebaroi:~/Desktop/LAB$ mkdir Shaiane3

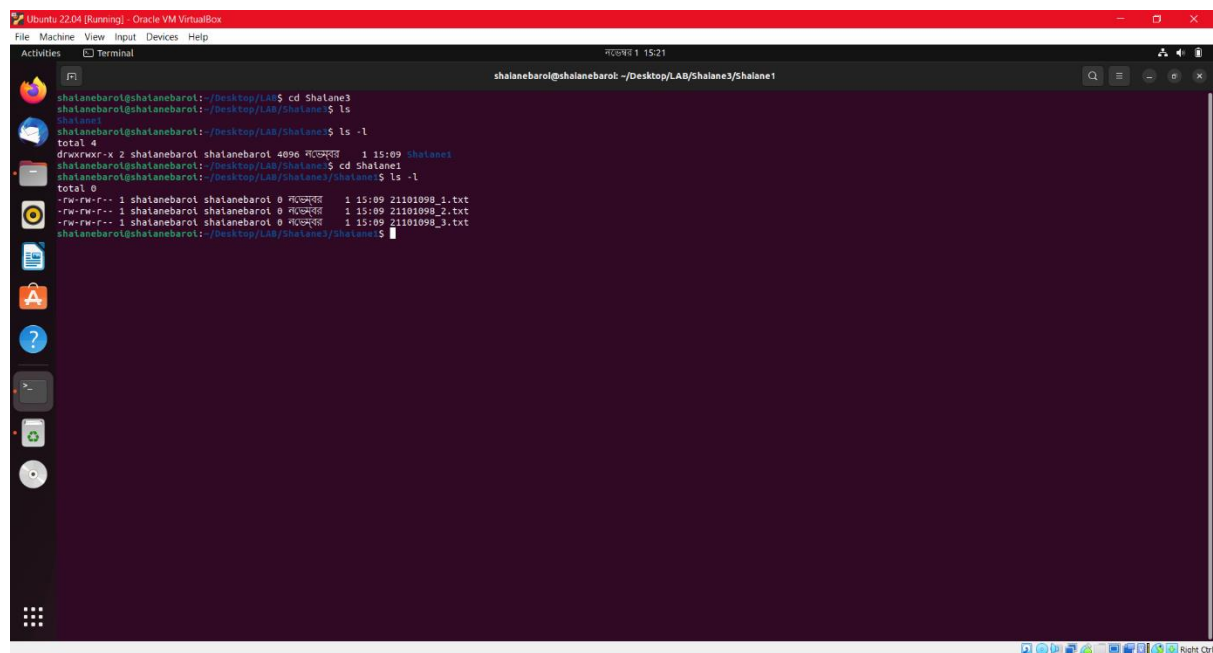
shaianebaroi@shaianebaroi:~/Desktop/LAB$ cp -r Shaiane1/
Shaiane3/

shaianebaroi@shaianebaroi:~/Desktop/LAB$
```



#CHECKING PERMISSIONS OF THE DIRECTORY

```
shaianebaroi@shaianebaroi:~/Desktop/LAB$ cd Shaiane3
shaianebaroi@shaianebaroi:~/Desktop/LAB/Shaiane3$ ls
Shaiane1
shaianebaroi@shaianebaroi:~/Desktop/LAB/Shaiane3$ ls -l
total 4
drwxrwxr-x 2 shaianebaroi shaianebaroi 4096 নভেম্বর 1 15:09
Shaiane1
shaianebaroi@shaianebaroi:~/Desktop/LAB/Shaiane3$ cd Shaiane1
shaianebaroi@shaianebaroi:~/Desktop/LAB/Shaiane3/Shaiane1$ ls -l
total 0
-rw-rw-r-- 1 shaianebaroi shaianebaroi 0 নভেম্বর 1 15:09
21101098_1.txt
-rw-rw-r-- 1 shaianebaroi shaianebaroi 0 নভেম্বর 1 15:09
21101098_2.txt
-rw-rw-r-- 1 shaianebaroi shaianebaroi 0 নভেম্বর 1 15:09
21101098_3.txt
shaianebaroi@shaianebaroi:~/Desktop/LAB/Shaiane3/Shaiane1$
```



#CHANGING PERMISSIONS OF THE DIRECTORY
[SINCE THERE IS ONLY ONE DIRECTORY IN THE SHAIANE3 DIRECTORY
AND NO OTHER FILES, SO ONLY THE PERMISSIONS OF THE SHAIANE1
DIRECTORY HAVE BEEN CHANGED]

```
shaianebaroi@shaianebaroi:~/Desktop/LAB/Shaiane3/Shaiane1$ cd ..

shaianebaroi@shaianebaroi:~/Desktop/LAB/Shaiane3$      chmod      g+rx
Shaiane1

shaianebaroi@shaianebaroi:~/Desktop/LAB/Shaiane3$      chmod      g-w
Shaiane1

shaianebaroi@shaianebaroi:~/Desktop/LAB/Shaiane3$ ls -l

total 4

drwxr-xr-x 2 shaianebaroi shaianebaroi 4096 নভেম্বর      1 15:09
Shaiane1

shaianebaroi@shaianebaroi:~/Desktop/LAB/Shaiane3$      chmod      o+rx
Shaiane1

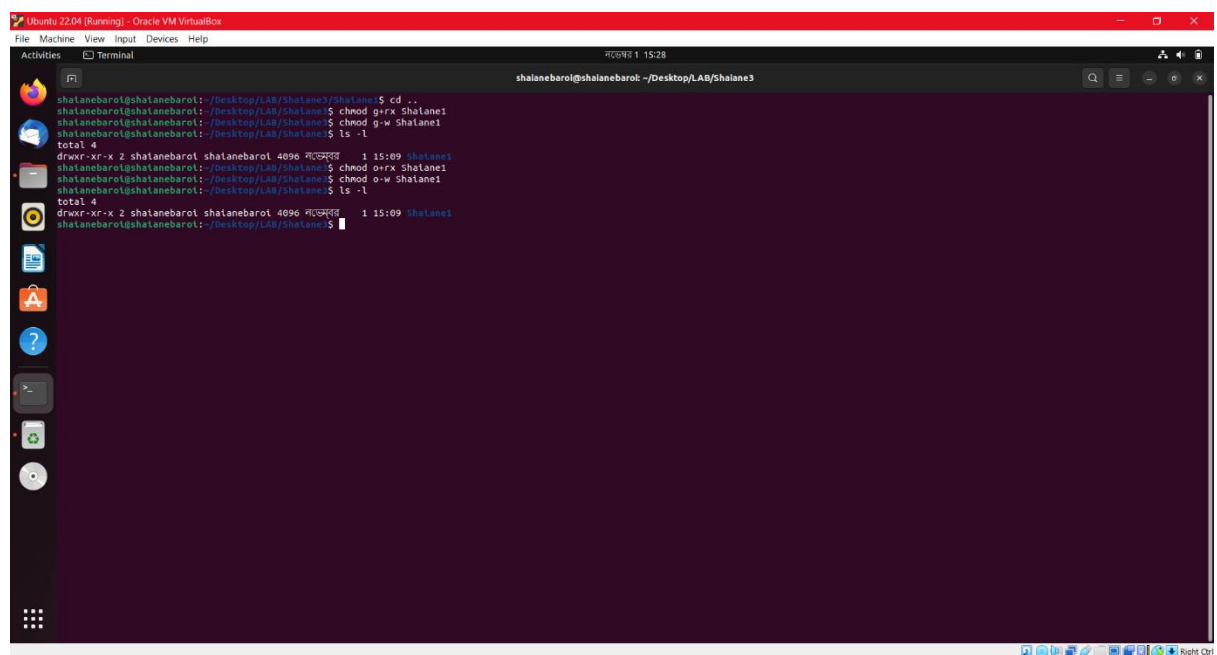
shaianebaroi@shaianebaroi:~/Desktop/LAB/Shaiane3$      chmod      o-w
Shaiane1

shaianebaroi@shaianebaroi:~/Desktop/LAB/Shaiane3$ ls -l

total 4

drwxr-xr-x 2 shaianebaroi shaianebaroi 4096 নভেম্বর      1 15:09
Shaiane1

shaianebaroi@shaianebaroi:~/Desktop/LAB/Shaiane3$
```



#RETURNING AND PRINTING

```
shaianebaroi@shaianebaroi:~/Desktop/LAB/Shaiane3$ cd ..
```

```
shaianebaroi@shaianebaroi:~/Desktop/LAB$ ls
```

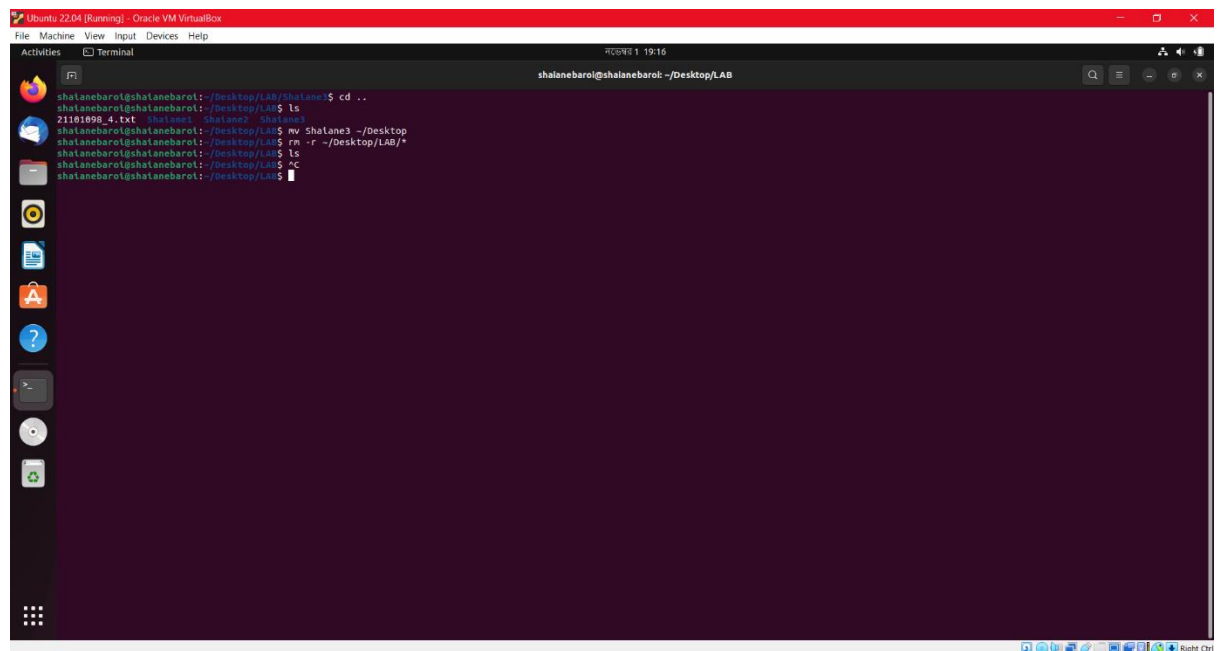
```
21101098_4.txt  Shaiane1  Shaiane2  Shaiane3
```

#MOVING DIRECTORY AND DELETING THE WORKING DIRECTORY

```
shaianebaroi@shaianebaroi:~/Desktop/LAB$ mv Shaiane3  
~/Desktop
```

```
shaianebaroi@shaianebaroi:~/Desktop/LAB$ rm -r  
~/Desktop/LAB/*
```

```
shaianebaroi@shaianebaroi:~/Desktop/LAB$ ls
```



TASK_B

#CREATING A TEXT FILE WITH COURSE INFORMATION

```
shaianebaroi@shaianebaroi:~/Desktop/LAB$ cat > courses.txt
```

Course1

Course ID: CSE321

Course Name: Operating Systems

Course Section: 07

Course Instructor: BDH

Course2

Course ID: CSE360

Course Name: Computer Interfacing

Course Section: 01

Course Instructor: KHR

Course3

Course ID: CSE471

Course Name: System Analysis and Design

Course Section: 04

Course Instructor: MIH

Course4

Course ID: SOC101

Course Name: Introduction to Sociology

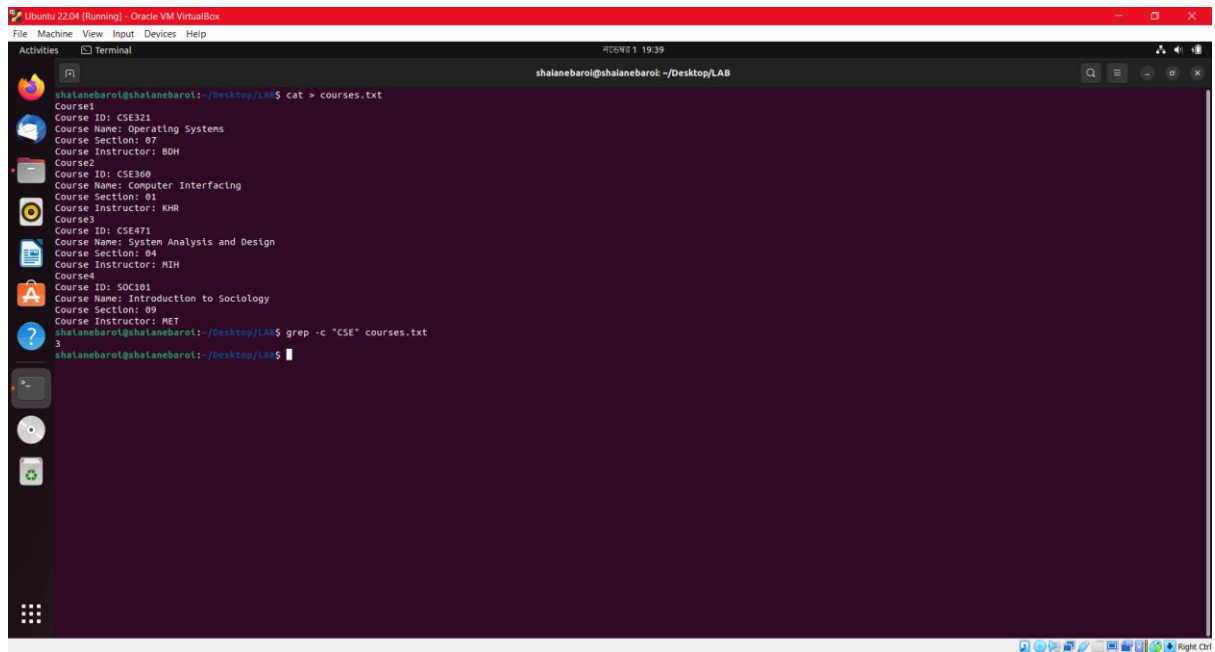
Course Section: 09

Course Instructor: MET

```
shaianebaroi@shaianebaroi:~/Desktop/LAB$
```

#COUNTING THE NUMBER OF "CSE" IN THE TEXT FILE

```
shaianebaroi@shaianebaroi:~/Desktop/LAB$ grep -c "CSE"  
courses.txt
```



The screenshot shows a terminal window titled "Ubuntu 22.04 (Running) - Oracle VM VirtualBox". The terminal displays the following commands and output:

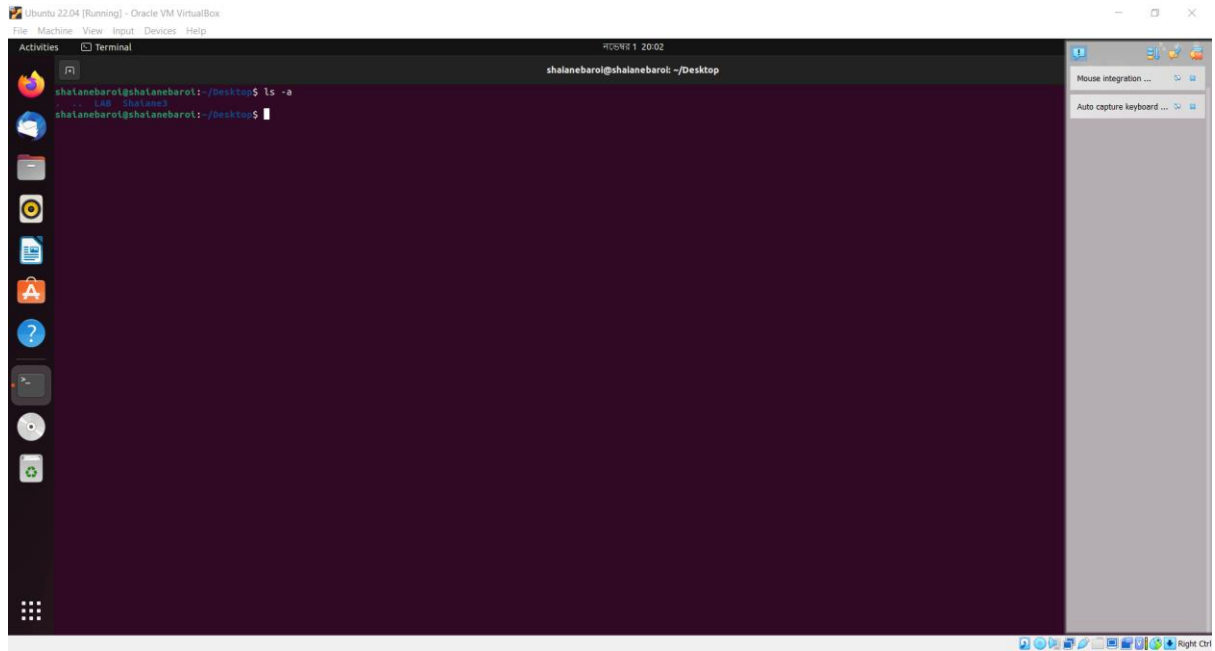
```
shaianebaroi@shaianebaroi:~/Desktop/LAB$ cat > courses.txt  
Course1  
Course ID: CSE321  
Course Name: Operating Systems  
Course Section: 07  
Course Instructor: BDH  
Course2  
Course ID: CSE368  
Course Name: Computer Interfacing  
Course Section: 01  
Course Instructor: KHR  
Course3  
Course ID: CSE471  
Course Name: System Analysis and Design  
Course Section: 04  
Course Instructor: MIH  
Course4  
Course ID: SOC101  
Course Name: Introduction to Sociology  
Course Section: 09  
Course Instructor: NET  
shaianebaroi@shaianebaroi:~/Desktop/LAB$ grep -c "CSE" courses.txt  
3  
shaianebaroi@shaianebaroi:~/Desktop/LAB$
```

The terminal window has a dark purple background and a light blue border. The top bar shows the file manager, terminal, and other applications. The bottom status bar indicates the time as 19:39 and the date as 11/08/2023.

TASK_C

#SHOWING ALL HIDDEN FILES

```
shaianebaroi@shaianebaroi:~/Desktop$ ls -a
```



TASK_D

#CREATING A TEXT FILE WITH COURSE INFORMATION (20 LINES)

```
shaianebaroi@shaianebaroi:~/Desktop/LAB$ cat > courses.txt
```

Course1

Course ID: CSE321

Course Name: Operating Systems

Course Section: 07

Course Instructor: BDH

Course2

Course ID: CSE360

Course Name: Computer Interfacing

Course Section: 01

Course Instructor: KHR

Course3

Course ID: CSE471

Course Name: System Analysis and Design

Course Section: 04

Course Instructor: MIH

Course4

Course ID: SOC101

Course Name: Introduction to Sociology

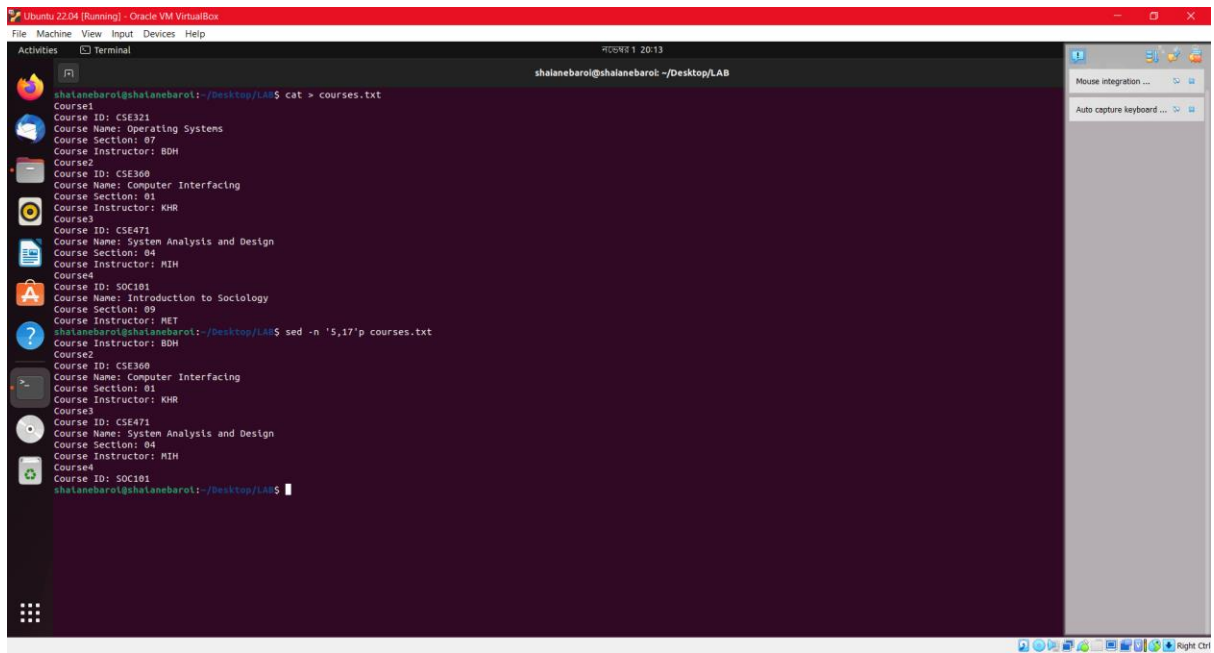
Course Section: 09

Course Instructor: MET

```
shaianebaroi@shaianebaroi:~/Desktop/LAB$
```

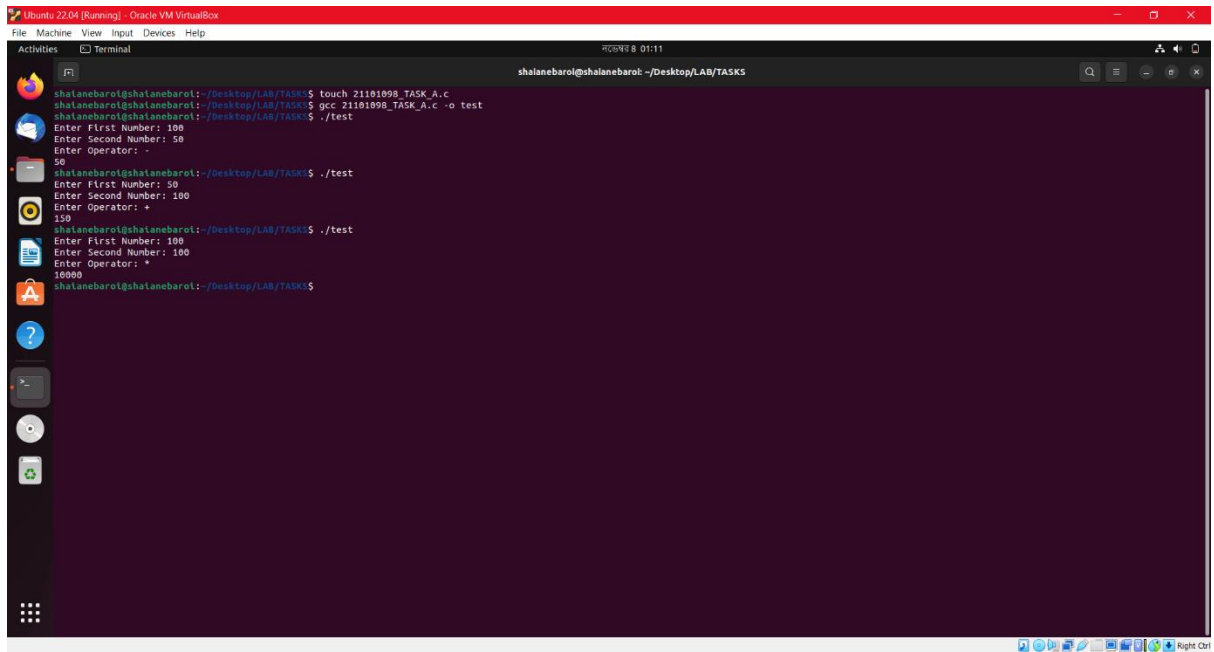
#PRINTING LINES 5 - 17

```
shaianebaroi@shaianebaroi:~/Desktop/LAB$ sed -n '5,17'p  
courses.txt
```



C Programming

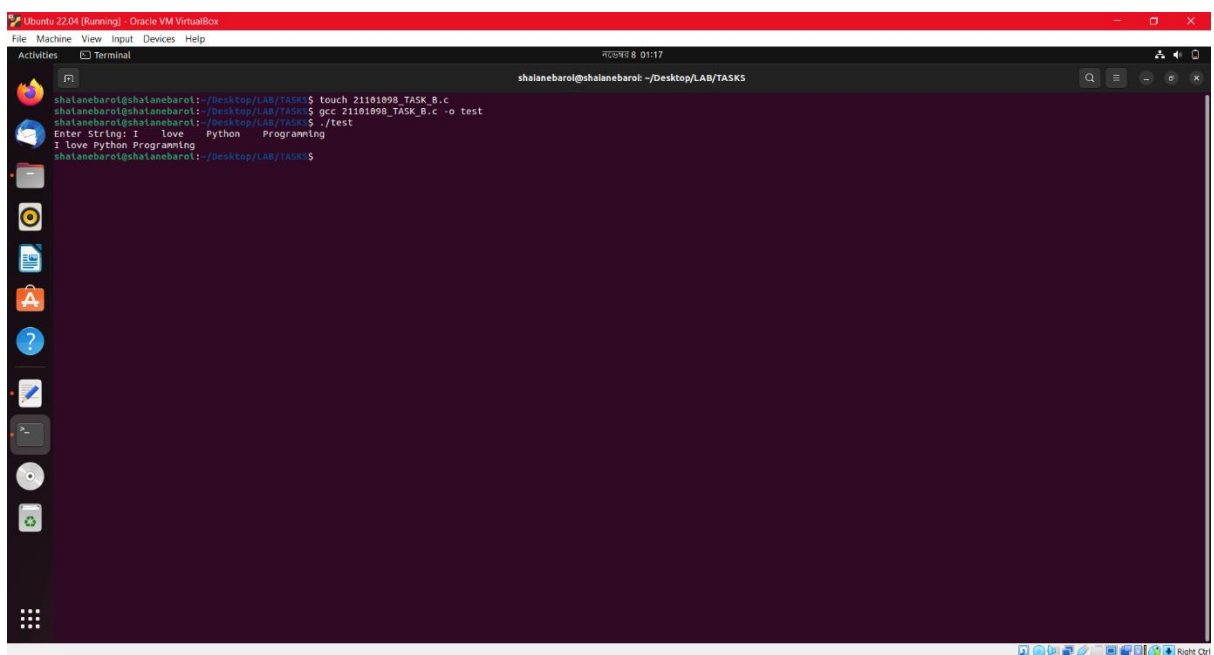
TASK_A



The screenshot shows a terminal window titled "Ubuntu 22.04 [Running] - Oracle VM VirtualBox". The terminal output is as follows:

```
shalanebaroi@shalanebaroi: ~/Desktop/LAB/TASKS
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ touch 21101098_TASK_A.c
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ gcc 21101098_TASK_A.c -o test
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ ./test
Enter First Number: 100
Enter Second Number: 50
Enter Operator: -
50
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ ./test
Enter First Number: 50
Enter Second Number: 100
Enter Operator: +
150
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ ./test
Enter First Number: 100
Enter Second Number: 100
Enter Operator: *
10000
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$
```

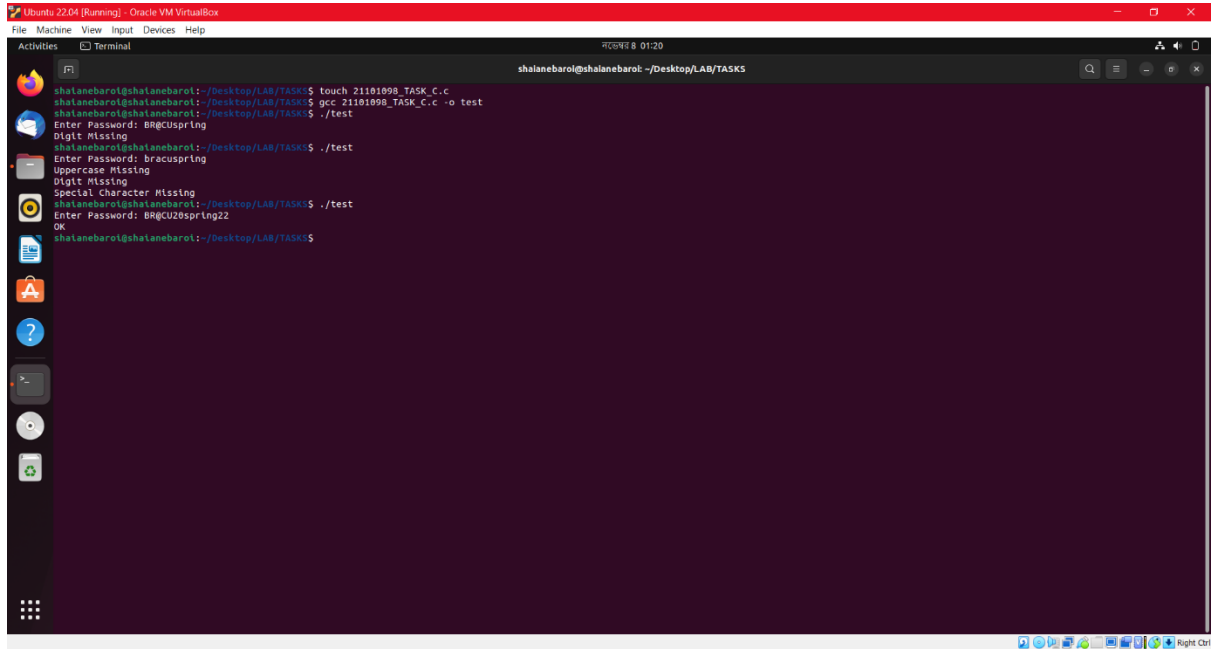
TASK_B



The screenshot shows a terminal window titled "Ubuntu 22.04 [Running] - Oracle VM VirtualBox". The terminal output is as follows:

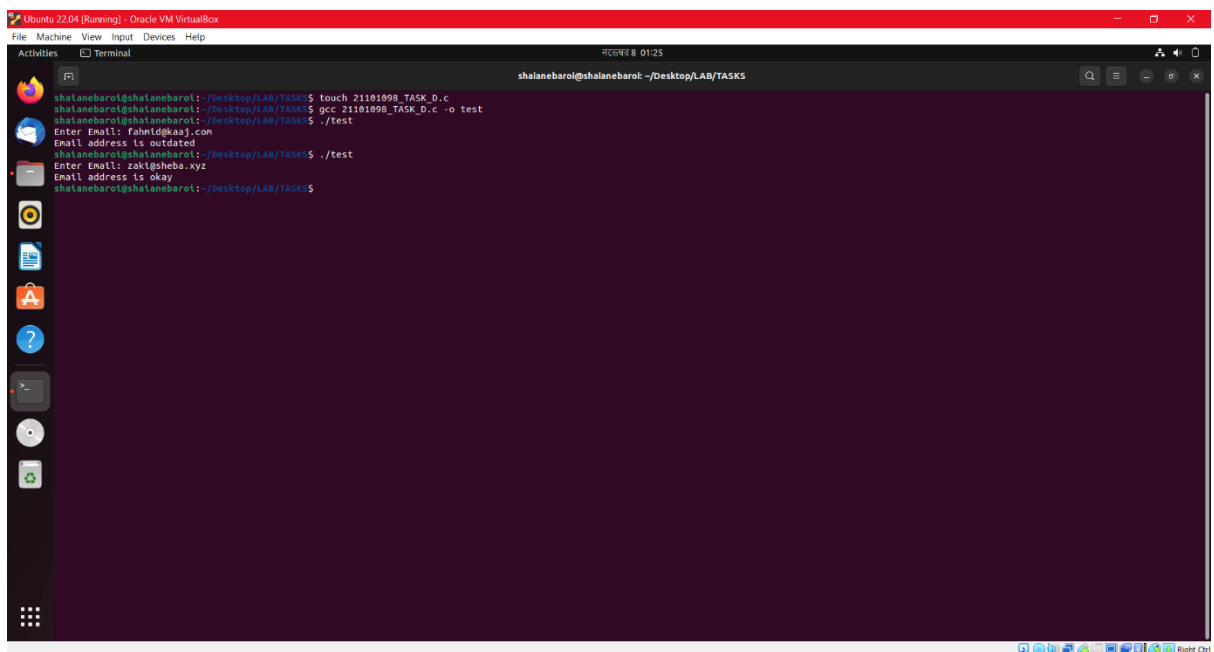
```
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ touch 21101098_TASK_B.c
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ gcc 21101098_TASK_B.c -o test
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ ./test
Enter String: I love Python Programming
I Love Python Programming
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$
```

TASK_C



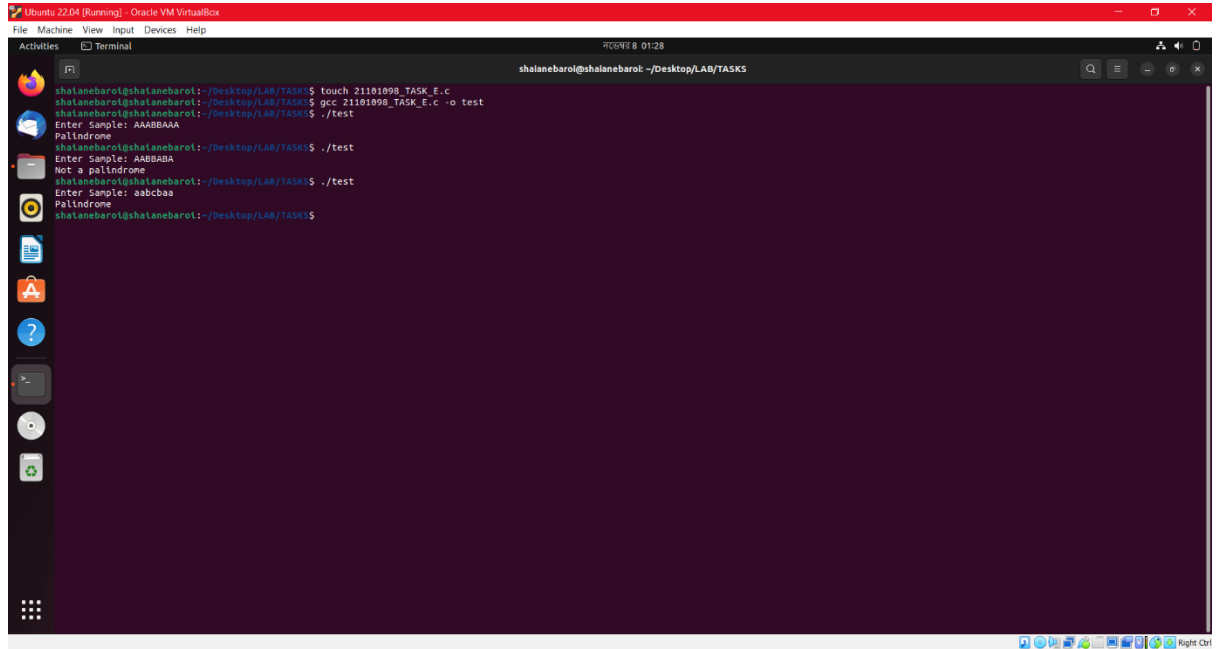
```
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ touch 21101098_TASK_C.c
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ gcc 21101098_TASK_C.c -o test
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ ./test
Enter Password: BR@CUspring
Digit Missing
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ ./test
Enter Password: BR@CUspring
Uppercase Missing
Digit Missing
Special Character Missing
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ ./test
Enter Password: BR@CU20spring22
OK
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$
```

TASK_D



```
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ touch 21101098_TASK_D.c
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ gcc 21101098_TASK_D.c -o test
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ ./test
Enter Email: fahmidpkaj.com
Email address is outdated
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ ./test
Enter Email: zaki@sheba.xyz
Email address is okay
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$
```

TASK_E



The screenshot shows a terminal window titled "Ubuntu 22.04 (Running) - Oracle VM VirtualBox". The terminal output is as follows:

```
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ touch 21101098_TASK_E.c
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ gcc 21101098_TASK_E.c -o test
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ ./test
Enter Sample: AAABBAAB
Palindrome
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ ./test
Enter Sample: AABBBABA
Not a palindrome
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$ ./test
Enter Sample: aabcbab
Palindrome
shalanebaroi@shalanebaroi:~/Desktop/LAB/TASKS$
```

The terminal window has a dark purple background. The left sidebar shows the Ubuntu desktop environment with various application icons. The top of the window displays the menu bar with "File", "Machine", "View", "Input", "Devices", and "Help". The title bar indicates the window is running on Oracle VM VirtualBox.