

RIPHAH INTERNATIONAL UNIVERSITY, ISLAMABAD



Lab # 9

Bachelors of Computer Science – 6th Semester

Subject: Operating System

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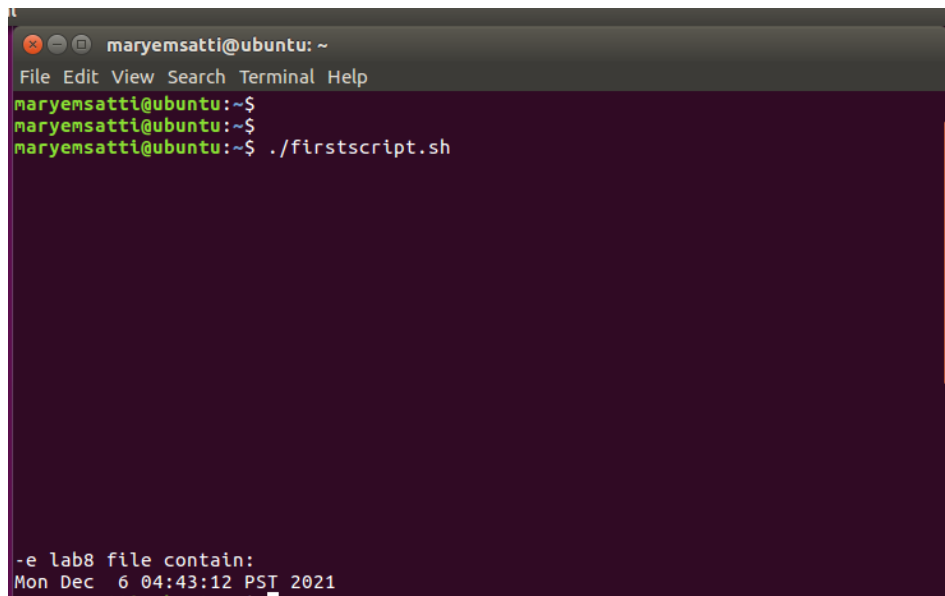
Date of Submission: 20- Oct -2024

Exercise 1:

Run following script. And examine output.

01

```
#!/bin/sh
clear
date > lab8
echo -e "lab8 file contains:"
cat < lab8
```

AnswerA terminal window titled 'maryemsatti@ubuntu: ~' with a menu bar (File, Edit, View, Search, Terminal, Help). The prompt is 'maryemsatti@ubuntu:~\$'. The user enters './firstscript.sh'. The output shows 'lab8 file contains:' followed by a timestamp 'Mon Dec 6 04:43:12 PST 2021'.

```
maryemsatti@ubuntu:~$ ./firstscript.sh
-e lab8 file contain:
Mon Dec 6 04:43:12 PST 2021
```

Exercise 2:

A file contains following script. Execute this code.

01

```
#!/bin/sh

x=5
y=0
echo "The value of X = " $x
y=$(expr $x + 5)
echo "The value of Y = " $y
```

Answer

The **output** of the above program is

The value of X = 5

The value of Y = 10

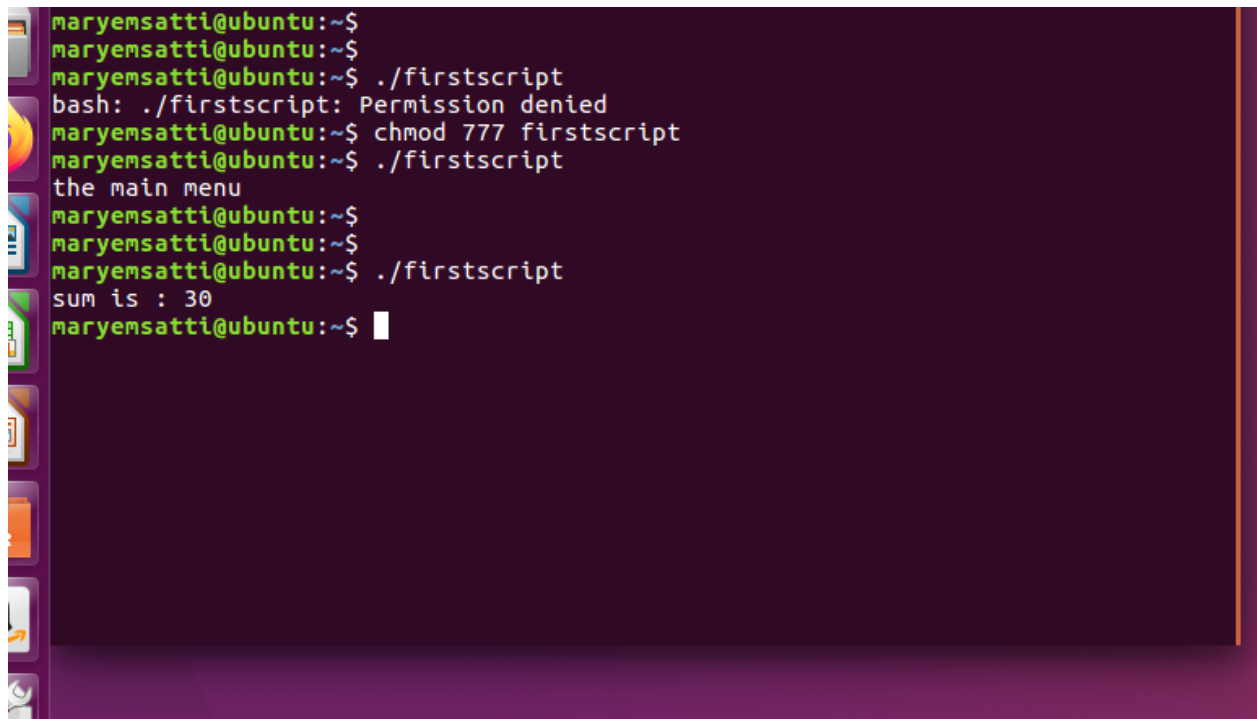
Exercise 3:

Write shell script that reads 2 integer values from user and print their sum on screen. **02**

Answer

```
#!/bin/bash
a=10
b=20
sum=$(( $a + $b ))

echo "sum is : $sum"
```



A terminal window screenshot showing the execution of a shell script. The user 'maryemsatti' is at an 'ubuntu' prompt. They run './firstscript', which fails with 'Permission denied'. They then run 'chmod 777 firstscript'. Running './firstscript' again shows the script's output: 'the main menu' followed by a prompt. The user enters '30', and the script outputs 'sum is : 30'.

```
maryemsatti@ubuntu:~$
maryemsatti@ubuntu:~$
maryemsatti@ubuntu:~$ ./firstscript
bash: ./firstscript: Permission denied
maryemsatti@ubuntu:~$ chmod 777 firstscript
maryemsatti@ubuntu:~$ ./firstscript
the main menu
maryemsatti@ubuntu:~$
maryemsatti@ubuntu:~$
maryemsatti@ubuntu:~$ ./firstscript
sum is : 30
maryemsatti@ubuntu:~$
```

Exercise 4:

Write shell script that takes string from user, and make folder with named with string. Folder should contain file with named timestamp. Having current time and date written on it. **02**

Answer

Code:

```
#!/bin/sh

clear
date > timestamped
echo "File Timestamped contains current Date & Time"
cat < timestamped|
```

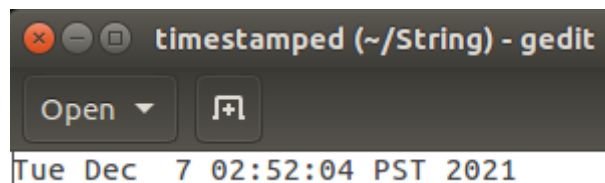
Commands:

```
linta@ubuntu:~$ mkdir String
linta@ubuntu:~$ cd String
linta@ubuntu:~/String$ gedit CodeLinta
linta@ubuntu:~/String$ chmod 777 CodeLinta
linta@ubuntu:~/String$ ./CodeLinta
```

Output:

```
File Timestamped contains current Date & Time
Tue Dec 7 02:47:45 PST 2021
linta@ubuntu:~/String$
```

Date Saved in file "TimeStamped":



Exercise 5:

Write a shell script to get the total count of the word "Linux" in all the ".txt" files and also across files present in subdirectories. **02**

Answer

The following is the test script/command which recursively searches for the ".txt" files and returns the total occurrences of a word <Linux>.

```
$ find . -name *.txt -exec grep -c Linux '{}' \; | awk '{x+=$0;}END{print x}'
```

Exercise 6:

Write shell script that defines 2 integers and one float value like

a=5

b=7

c=5.5

Perform multiplication of integers then divide with float.

and finally print result with four decimal places. like 6.3636

you have to use pipe operator (|) to send variables to **bc** utility for arithmetic.

03

Answer

```
#!/bin/bash
a=5
b=7
c=5.5
multiply=$(expr $a \* $b | bc)
echo $multiply
echo "scale = 4; 30/5.5" | bc|
```

```
maryemsatti@ubuntu:~$ gedit lab9
maryemsatti@ubuntu:~$
maryemsatti@ubuntu:~$ chmod 777 lab9
maryemsatti@ubuntu:~$ ./lab9
./lab9: line 6: 5 \* 7 | bc: syntax error: invalid arithmetic operator (error to
ken is "\* 7 | bc")

maryemsatti@ubuntu:~$
maryemsatti@ubuntu:~$
maryemsatti@ubuntu:~$ ./lab9
35
maryemsatti@ubuntu:~$
maryemsatti@ubuntu:~$ ./lab9
35
5.4545
maryemsatti@ubuntu:~$
```