Operating Systems – OS

Lab Task 09 (OS-009)

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Submitted to:

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Tasks

Solution:

Task 1:

Write this script in a file firstscript.

```
clear
echo "Welcome to Shell Scripting"
```

```
muhammadroshaanidrees56177@Ubuntu:~$ touch lab9.sh
muhammadroshaanidrees56177@Ubuntu:~$ cat>lab9.sh
echo " Welcome to Shell Scripting "
echo " this is lab 09"
muhammadroshaanidrees56177@Ubuntu:~$ chmod u+x lab9.sh
muhammadroshaanidrees56177@Ubuntu:~$ ./lab9.sh
 Welcome to Shell Scripting
 this is lab 09
muhammadroshaanidrees56177@Ubuntu:~$
```

Task 2:

The shell recognizes # as the comment symbol; therefore, characters after the # are ignored. The following command sequences shows examples of comment lines:

#……………………..   This is comment line.

program 3   This is also comment line

date   #show the current date   Comment in the middle of the line

echo "Hello!!!"   # prints Hello!!! On the screen

(Were just Comments based -- # is used to write comment)

Task 3:

Run following script. and examine output.

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

```
muhammadroshaanidrees56177@Ubuntu:~$ cat>>lab9task3.sh
#!/bin/sh

date #todays date
echo -r "this is lab 9 by using magic command " #message
cat<lab9task3.sh #print the code of this file
muhammadroshaanidrees56177@Ubuntu:~$ ./lab9task3.sh
bash: ./lab9task3.sh: Permission denied
muhammadroshaanidrees56177@Ubuntu:~$ chmod u+x lab9task3.sh
muhammadroshaanidrees56177@Ubuntu:~$ ./lab9task3.sh
Tue 28 Oct 11:51:41 PKT 2025
-r this is lab 9 by using magic command
#!/bin/sh

date #todays date
echo -r "this is lab 9 by using magic command " #message
cat<lab9task3.sh #print the code of this file
muhammadroshaanidrees56177@Ubuntu:~$ 
```

Task 4:

A file contains following script. Execute this code.

```
#/bin/sh

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

```
muhammadroshaanidrees56177@Ubuntu:~$ cat<lab9task4.sh
#!/bin/sh
x=5
y=0
echo "the value of x= " $x
y=$(expr $x + 5)
echo "the value of y= " $y

muhammadroshaanidrees56177@Ubuntu:~$ ./lab9task4.sh
the value of x=  5
the value of y=  10
muhammadroshaanidrees56177@Ubuntu:~$
```

bc Command:

```
muhammadroshaanidrees56177@Ubuntu:~$ bc
bc 1.07.1
Copyright 1991-1994, 1997, 1998, 2000, 2004, 2006, 2008, 2012-2017 Free Software Foundation, Inc.
This is free software with ABSOLUTELY NO WARRANTY.
For details type `warranty'.
2 + 5
7
2.4455 * 344.334
842.0687
4455 / 342
13

muhammadroshaanidrees56177@Ubuntu:~$
```

scale Command:

```
muhammadroshaanidrees56177@Ubuntu:~$ bc
bc 1.07.1
Copyright 1991-1994, 1997, 1998, 2000, 2004, 2006, 2008, 2012-2017 Free Software Foundation, Inc.
This is free software with ABSOLUTELY NO WARRANTY.
For details type `warranty'.
scale=3
15 / 2
7.500

muhammadroshaanidrees56177@Ubuntu:~$
```

expr Command:

```
muhammadroshaanidrees56177@Ubuntu:~$ echo 5.5 + 6.9 | bc
12.4
muhammadroshaanidrees56177@Ubuntu:~$ echo "scale=3; 15 / 2 " | bc
7.500
muhammadroshaanidrees56177@Ubuntu:~$ echo "scale=4; 1043 / 6 " | bc
173.8333
muhammadroshaanidrees56177@Ubuntu:~$ var=echo "scale=3; sqrt(30)" | bc
scale=3; sqrt(30): command not found
muhammadroshaanidrees56177@Ubuntu:~$ echo $var

muhammadroshaanidrees56177@Ubuntu:~$ var=$(echo "scale=3; sqrt(30)" | bc)
muhammadroshaanidrees56177@Ubuntu:~$ echo $ var
$ var
muhammadroshaanidrees56177@Ubuntu:~$ echo $var
5.477
muhammadroshaanidrees56177@Ubuntu:~$
```

Task 5:

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

```
muhammadroshaanidrees56177@Ubuntu:~$ cat>>lab9task5.sh
#!/bin/bash
echo "Enter first number:"
read a
echo "Enter second number:"
read b
sum=$(expr $a + $b)
echo "Sum of $a and $b is: $sum"
muhammadroshaanidrees56177@Ubuntu:~$ ./lab9task5.sh
bash: ./lab9task5.sh: Permission denied
muhammadroshaanidrees56177@Ubuntu:~$ chmod u+x lab9task5.sh
muhammadroshaanidrees56177@Ubuntu:~$ ./lab9task5.sh
Enter first number:
2
Enter second number:
3
Sum of 2 and 3 is: 5
muhammadroshaanidrees56177@Ubuntu:~$
```

Task 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.

```
muhammadroshaanidrees56177@Ubuntu:~$ cat>>lab9task6.sh
#!/bin/bash
a=5
b=7
c=5.5
result=$(echo "scale=4; ($a * $b) / $c" | bc)
echo "Result of ($a * $b) / $c is: $result"
muhammadroshaanidrees56177@Ubuntu:~$ ./lab9task6.sh
bash: ./lab9task6.sh: Permission denied
muhammadroshaanidrees56177@Ubuntu:~$ chmod u+x lab9task6.sh
muhammadroshaanidrees56177@Ubuntu:~$ ./lab9task6.sh
Result of (5 * 7) / 5.5 is: 6.3636
muhammadroshaanidrees56177@Ubuntu:~$
```

Task 7:

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.

```
muhammadroshaanidrees56177@Ubuntu:~$ cat>>lab9task7.sh
#!/bin/bash
echo "Enter folder name:"
read foldername
mkdir "$foldername"
date > "$foldername/timestamp"
echo "Folder '$foldername' created with a timestamp file inside."
muhammadroshaanidrees56177@Ubuntu:~$ ./lab9task7.sh
bash: ./lab9task7.sh: Permission denied
muhammadroshaanidrees56177@Ubuntu:~$ chmod u+x lab9task7.sh
muhammadroshaanidrees56177@Ubuntu:~$ ./lab9task7.sh
Enter folder name:
Lab09
Folder 'Lab09' created with a timestamp file inside.
muhammadroshaanidrees56177@Ubuntu:~$ 
```