Lab 4 Shell Scripting Tasks

Submitted to: Mr. Noman Shafi

Submitted by:Hamza Waseem (2022-CS-54)

In this lab we will learn how to perform the following task,

1. Conditional Statements

2. Loops

3. Functions

All of these task will be performed using the Shell Scripting which is power way to write the commands in the ubuntu operating system.

In all files it is required that give the permission to read, write and execute by using following command

```
chmod 777 [filename]
```

The 777 grant the read, write and execute permission.

1. Conditional Statements

The decisions making in the shell scripting give new power to perform the complex task.

Syntax

```
if ((condition))
then # *block of code to be executed if the condition is true* fi
```

Note Make sure that you close the if statement with fi.

Examples

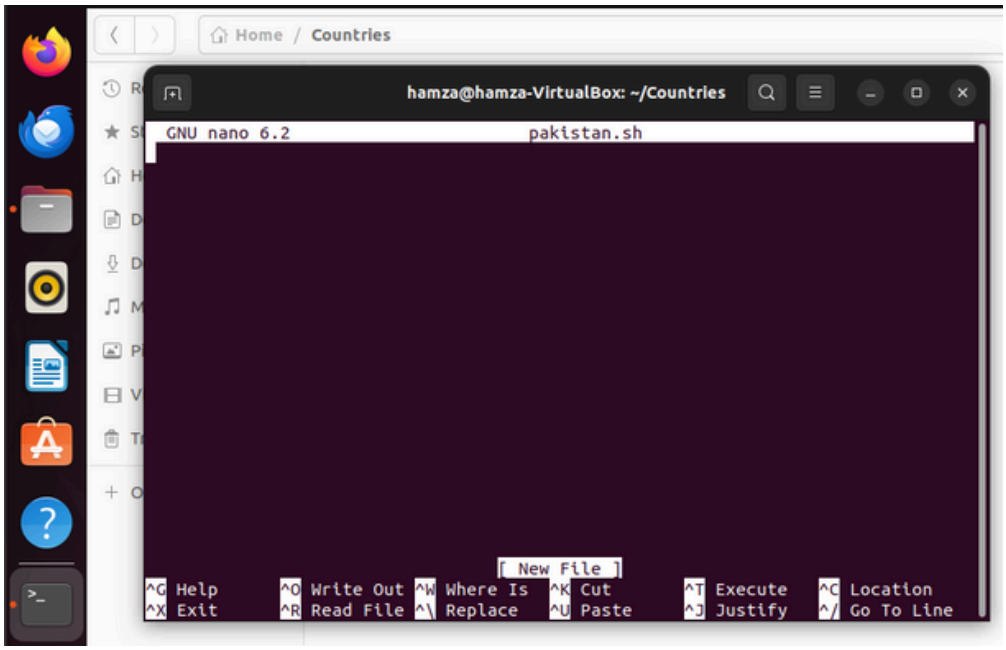
Question-01

Create a Bash script which will take 3 numbers as command line arguments. It
will print to the screen the larger of the three numbers

Solution

```
nano pakistan.sh
```

Open the terminal based text editor using the nano keyword follow by the file name where the file will be stored. e.g

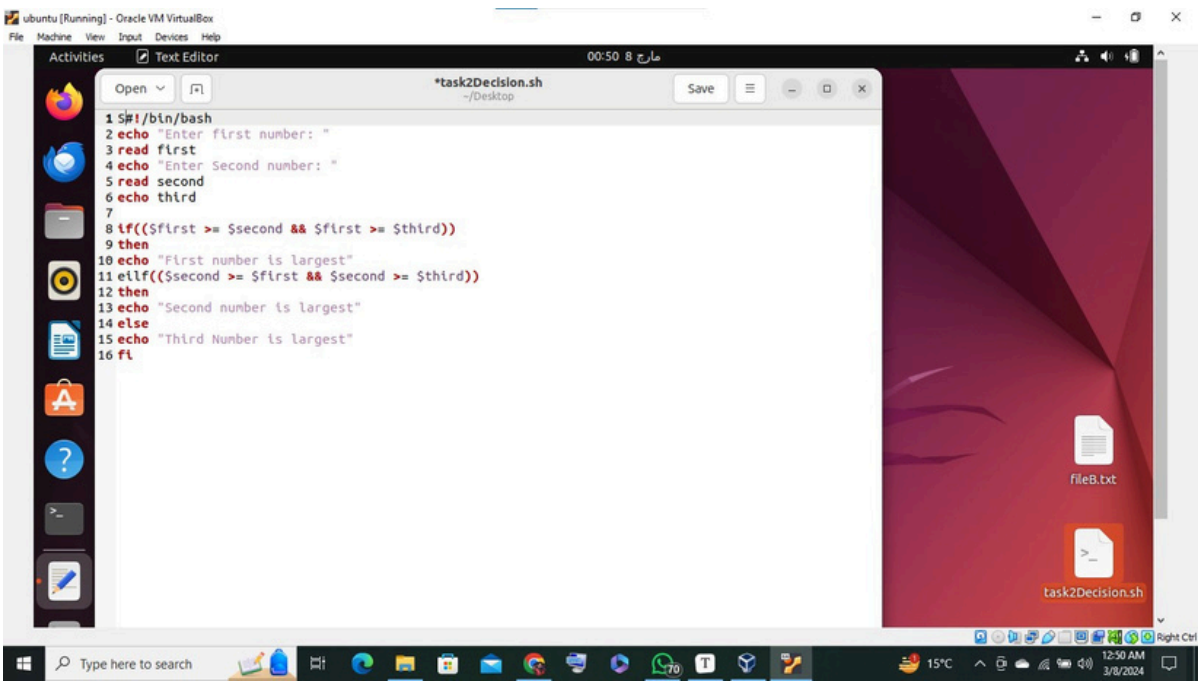


After writing the code into the terminal

Press CTRL+X command to save the file

Save modify buffer by pressing Y

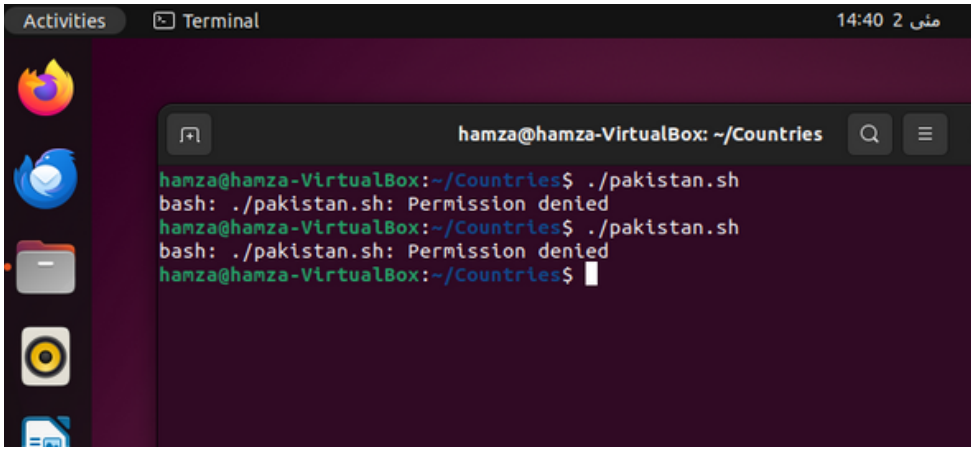
Press Enter to close the Nano text editor e.g



Run the file on the terminal using the following command

```
./pakistan.sh
```

It will run the the script on the terminal.e.g



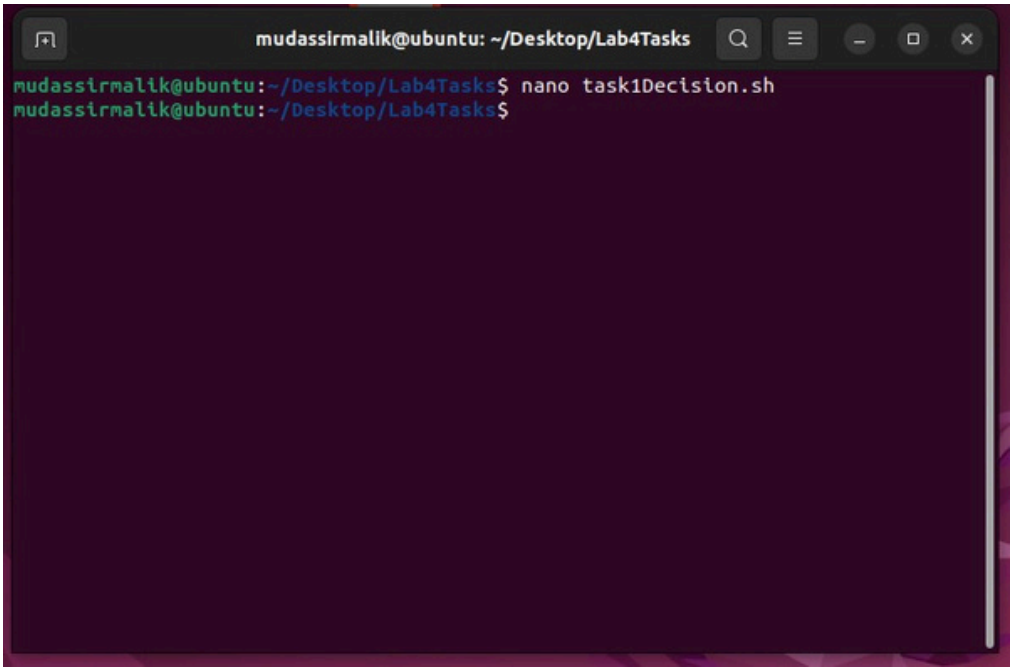
Question-02

Create a Bash script which will print a message based upon which day of the week it is (eg. 3 for Wednesday, 5 for Friday etc) using
switch statement.

Solution

```
nano task2Decision.sh
```

Open the terminal based text editor using the nano keyword follow by the file name where the file will be stored. e.g



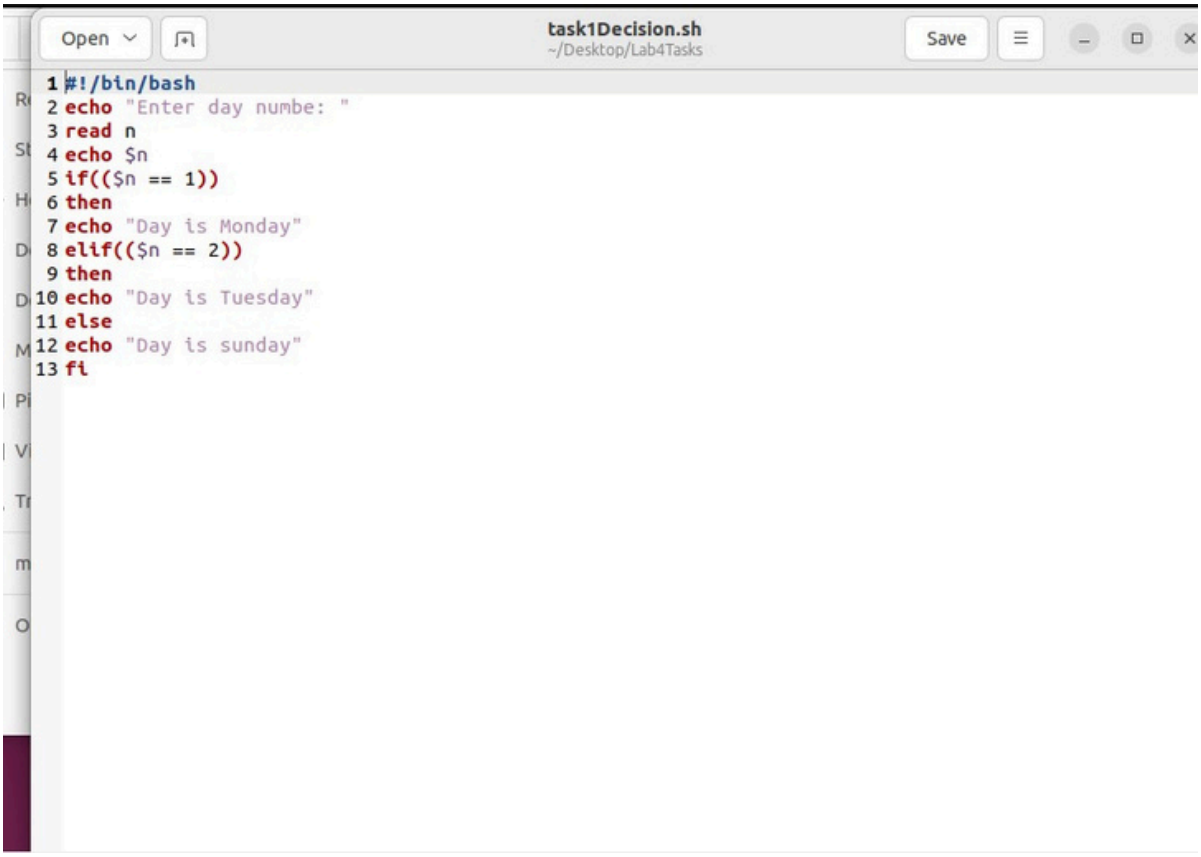
After writing the code into the terminal

Press CTRL+X command to save the file

Save modify buffer by pressing Y

Press Enter to close the Nano text editor

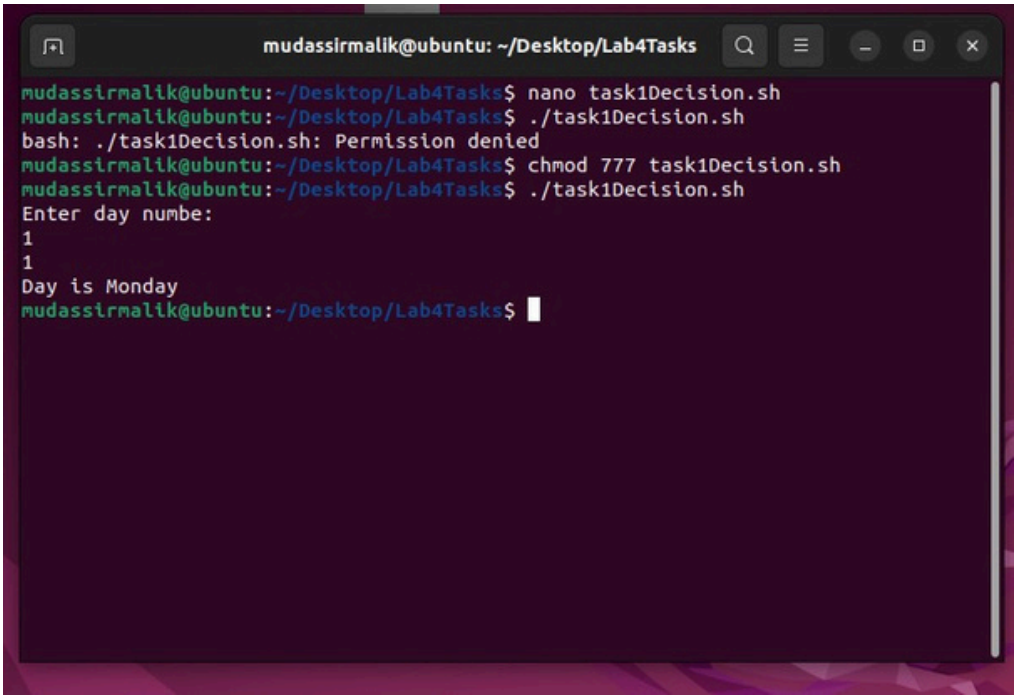
e.g



Run the file on the terminal using the following command

```
./task2Decision.sh
```

It will run the the script on the terminal.e.g



2. Loops

Loops are used to perform the repetitive task in the easier way.

Syntax

```
while ((condition))
do
then # *block of code to be executed if while the condition is true*
done
```

Note Make sure that you close the loop with then keyword.

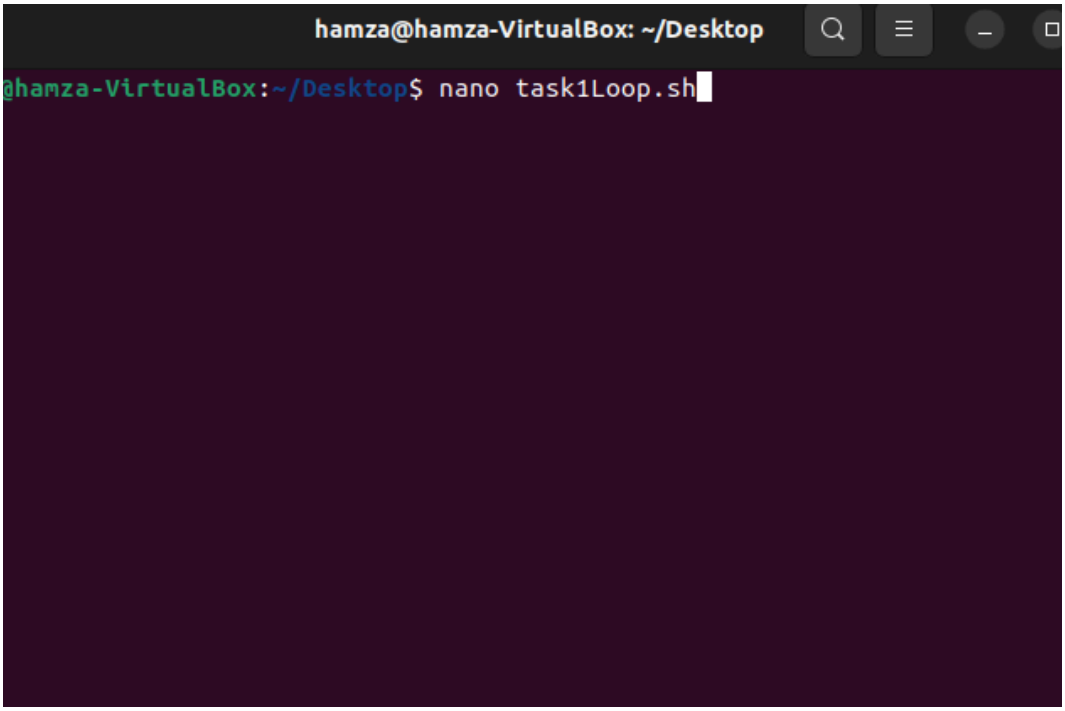
Question-01

Create a simple script which will print the numbers 1 - 10 (each on a separate line) and whether they are even or odd.

Solution

```
nano task1Loop.sh
```

Open the terminal based text editor using the Nano keyword follow by the file name where the file will be stored. e.g



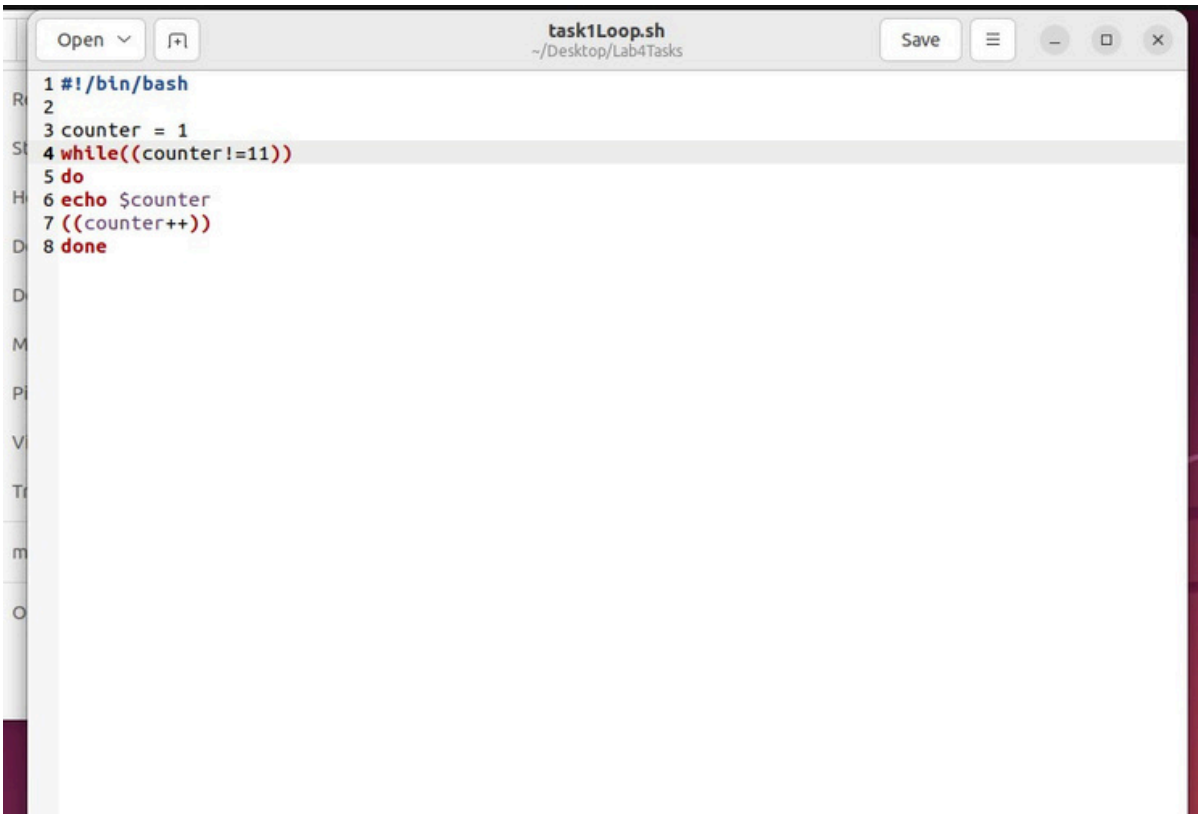
After writing the code into the terminal

Press CTRL+X command to save the file

Save modify buffer by pressing Y

Press Enter to close the Nano text editor

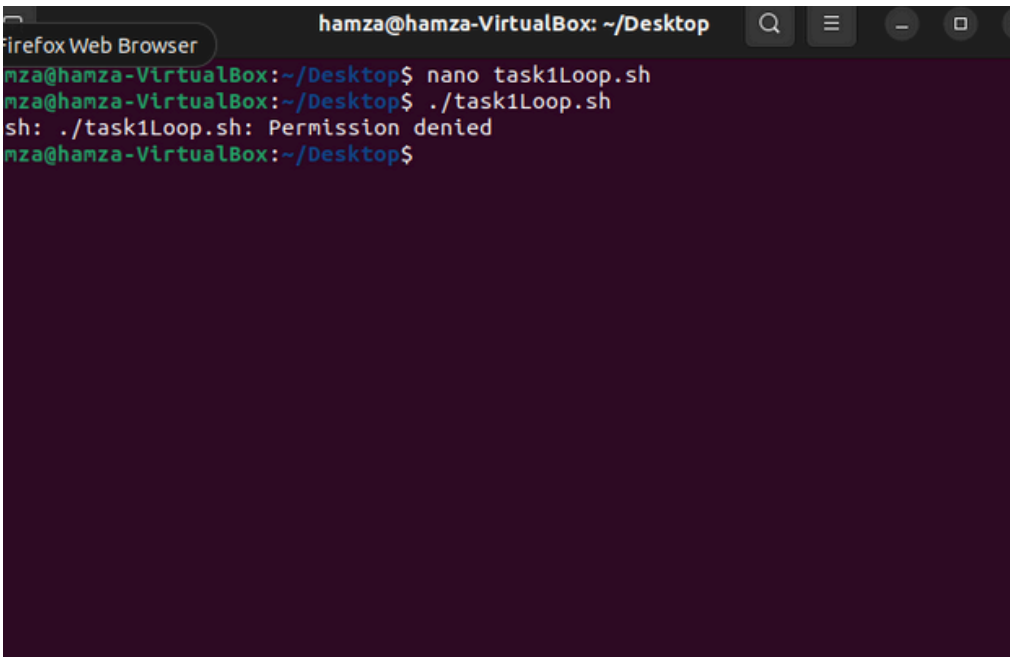
e.g



Run the file on the terminal using the following command

```
./ task1Loop.sh
```

It will run the the script on the terminal.e.g

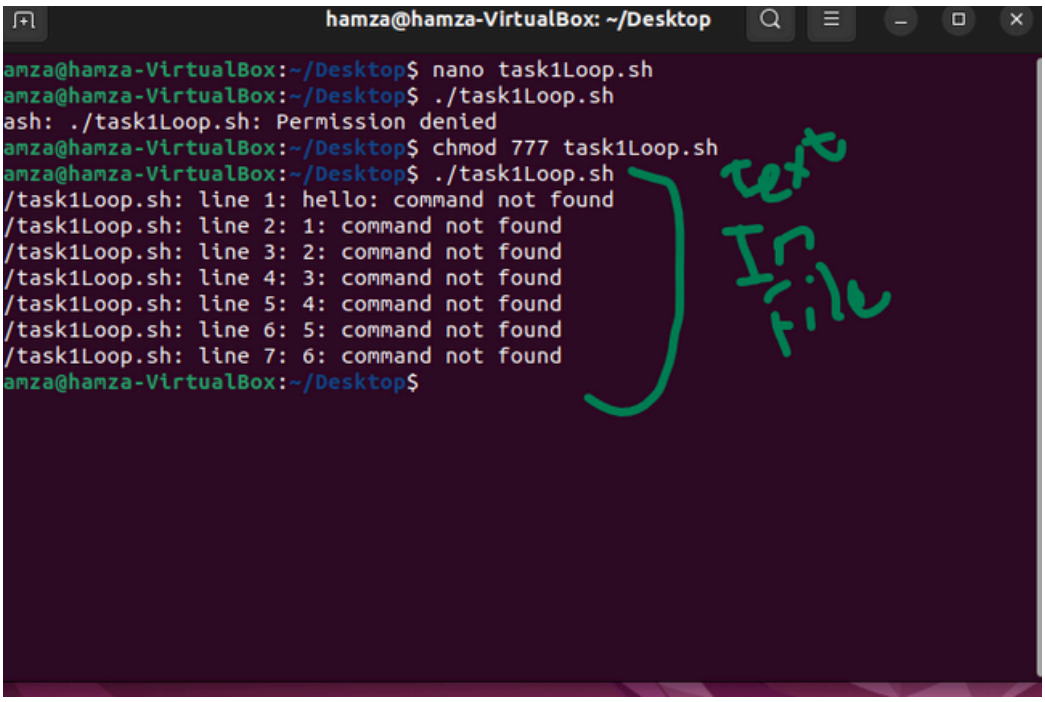


Question-02

Solution

```
nano task2Loop.sh
```

Open the terminal based text editor using the Nano keyword follow by the file name where the file will be stored. e.g



After writing the code into the terminal

Press CTRL+X command to save the file

Save modify buffer by pressing Y

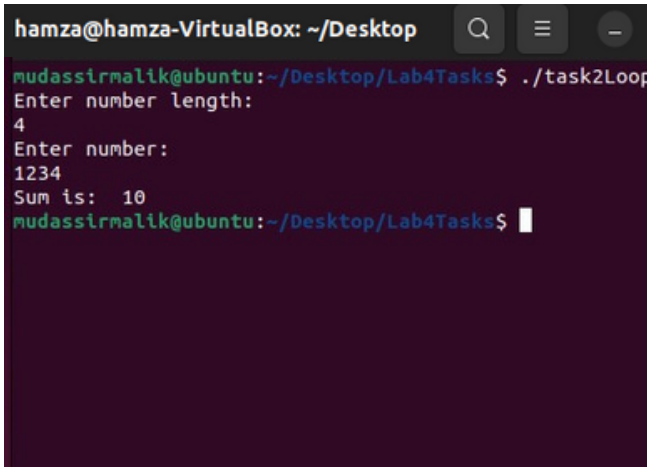
Press Enter to close the Nano text

editor e.g

Run the file on the terminal using the following command

```
./ task2Loop.sh
```

It will run the the script on the terminal.e.g



3. Functions

Functions are used to divide the all program or set of instruction into smaller independent parts

Syntax

```
function funcionName{
 # *block of code to be executed when the control will be enter* }
```

Note Make sure that you start and end with curly brackets.

Question-01

Write a shell script which takes a positive integer as an argument on the terminal and then checks if it is a palindrome or not. In order to find the reverse of this number it must be passed to function named reverse(), which computes the reverse and passes both, the number and its reverse to another function called palindromeCheck(). palindromeCheck() then compares the numbers and echoes if the number is a palindrome or not.

Solution

```
nano task1Function.sh
```

Open the terminal based text editor using the Nano keyword follow by the file name where the file will be stored. e.g

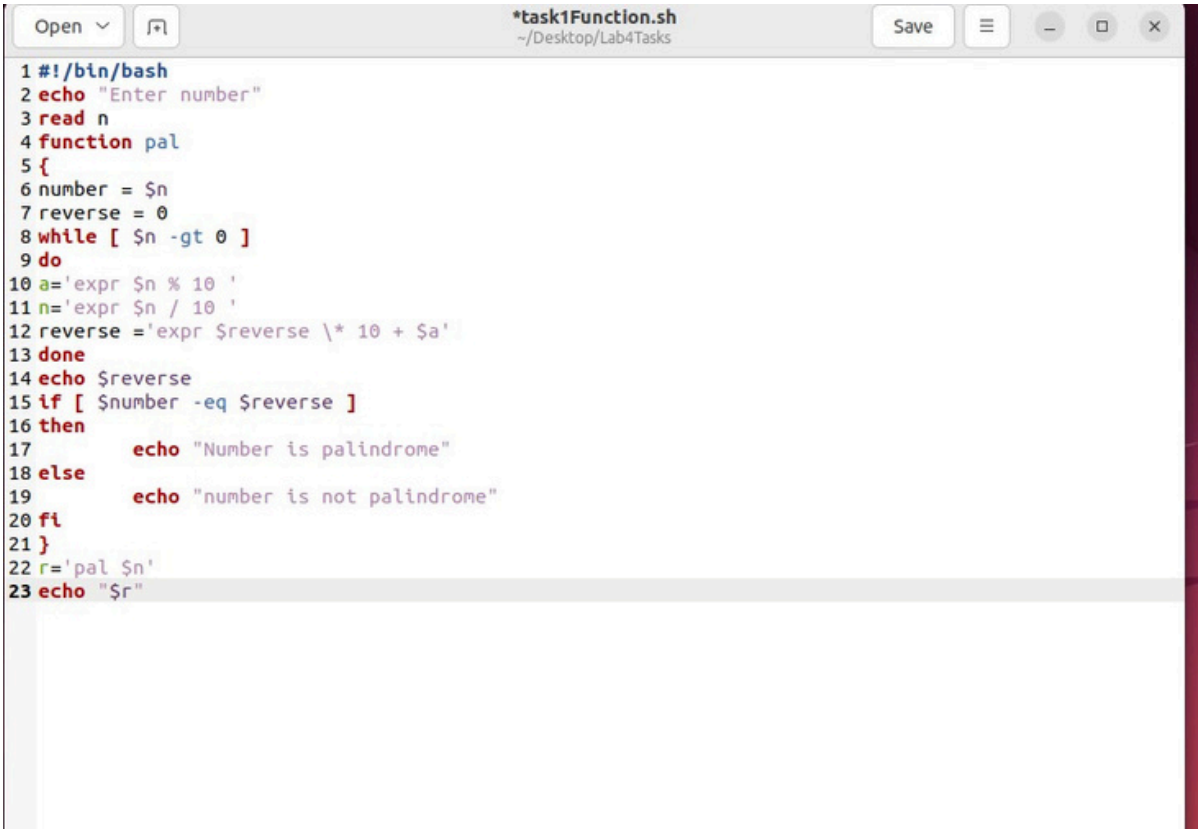
```
1Loop.sh: line 6: 5: command not found
1Loop.sh: line 7: 6: command not found
hamza-VirtualBox:~/Desktop$ nano task2.sh
```

After writing the code into the terminal

Press CTRL+X command to save the file

Save modify buffer by pressing Y

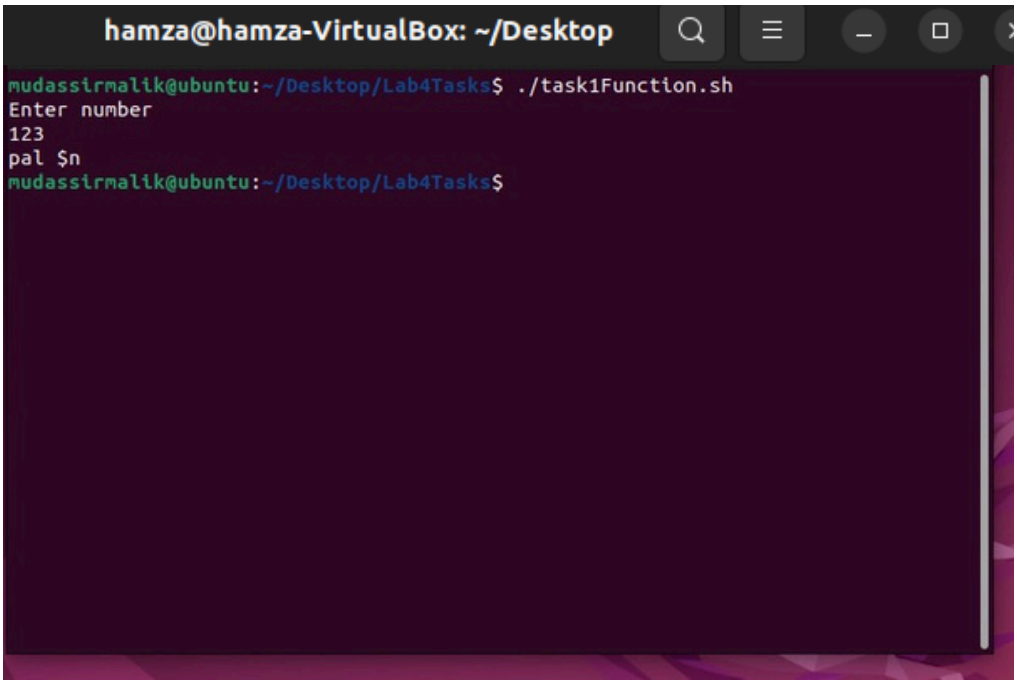
Press Enter to close the Nano text editor e.g



Run the file on the terminal using the following command

```
./ task1Function.sh
```

It will run the the script on the terminal.e.g



Question-02

Solution

```
nano task2function.sh
```

Open the terminal based text editor using the Nano keyword follow by the file name where the file will be stored. e.g

After writing the code into the terminal

Press CTRL+X command to save the file

Save modify buffer by pressing Y

Press Enter to close the Nano text editor

e.g

Run the file on the terminal using the following command

```
./ task2function.sh
```

It will run the the script on the terminal.e.g