

## Lab 3

Patel Priyank

23BCP203

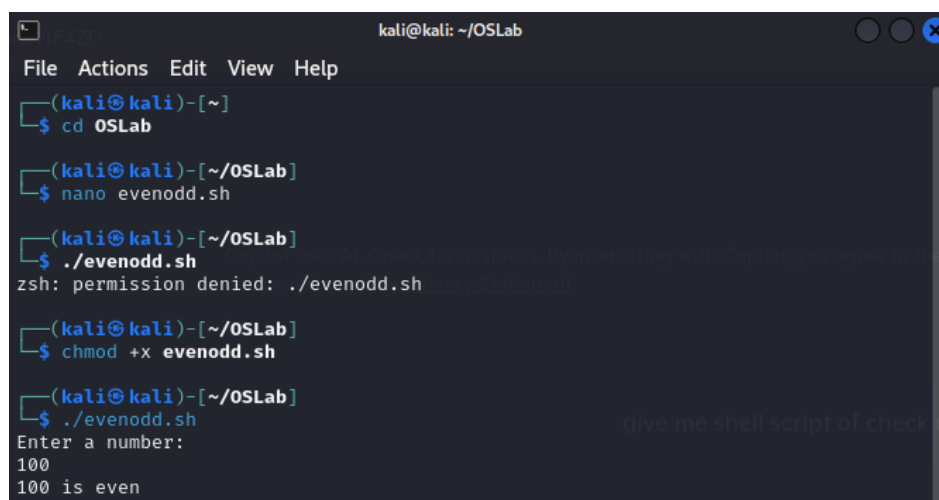
D3 – G6

OS Lab

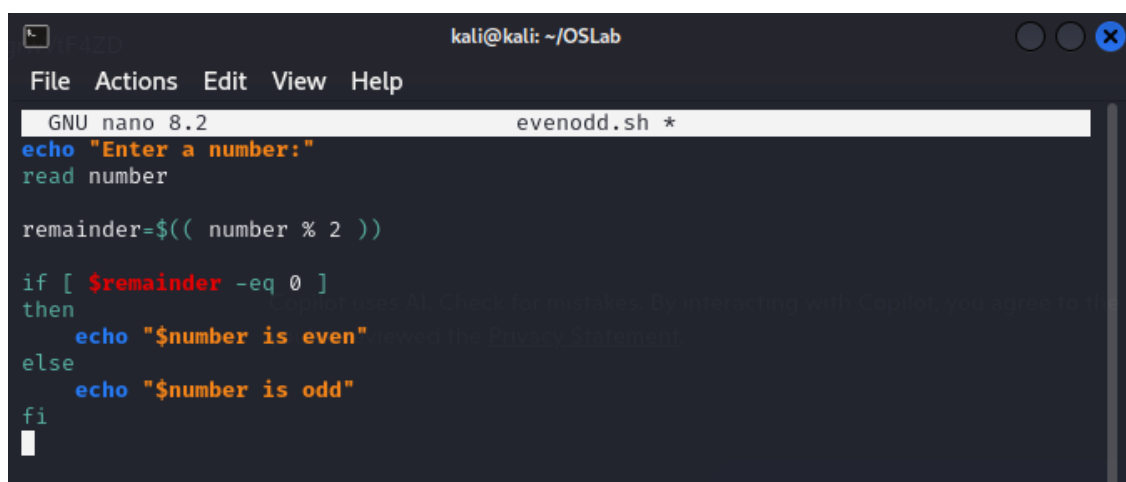
**Title:** Introduction to shell scripting with control statements.

**Task:** Write a below listed shell script using control statements, such as, Conditional statements, Loops, break, continue, etc.

a) Write a shell script to find whether a number is even or odd.



```
kali@kali: ~/OSLab
File Actions Edit View Help
(kali@kali)-[~]
$ cd OS Lab
(kali@kali)-[~/OSLab]
$ nano evenodd.sh
(kali@kali)-[~/OSLab]
$ ./evenodd.sh
zsh: permission denied: ./evenodd.sh
(kali@kali)-[~/OSLab]
$ chmod +x evenodd.sh
(kali@kali)-[~/OSLab]
$ ./evenodd.sh
Enter a number:
100
100 is even
```



```
kali@kali: ~/OSLab
File Actions Edit View Help
GNU nano 8.2 evenodd.sh *
echo "Enter a number:"
read number

remainder=$(( number % 2 ))

if [ $remainder -eq 0 ]
then
    echo "$number is even"
else
    echo "$number is odd"
fi
```

b) Write a script to print a table of a given number.

```
kali@kali: ~/OSLab
File Actions Edit View Help
GNU nano 8.2 table.sh *
echo "Enter a number:"
read number

for ((i=1; i<=10; i++))
do
    result=$(( number * i ))
    echo "$number * $i = $result"
done
```

```
kali@kali: ~/OSLab
File Actions Edit View Help

(kali@kali)-[~/OSLab]
$ touch table.sh

(kali@kali)-[~/OSLab]
$ nano table.sh

(kali@kali)-[~/OSLab]
$ chmod +x table.sh

(kali@kali)-[~/OSLab]
$ ./table.sh
Enter Number :
4
./table.sh: 4: Syntax error: Bad for loop variable

(kali@kali)-[~/OSLab]
$ chmod +x table.sh

(kali@kali)-[~/OSLab]
$ nano table.sh

(kali@kali)-[~/OSLab]
$ ./table.sh
Enter Number :
4
./table.sh: 4: Syntax error: Bad for loop variable

(kali@kali)-[~/OSLab]
$ nano table.sh

(kali@kali)-[~/OSLab]
$ ./table.sh
Enter a number:
4
4 * 1 = 4
4 * 2 = 8
4 * 3 = 12
4 * 4 = 16
4 * 5 = 20
4 * 6 = 24
4 * 7 = 28
4 * 8 = 32
4 * 9 = 36
4 * 10 = 40
```

c) Write a shell script to check whether a given no. is prime or not.

```
kali@kali: ~/OSLab
File Actions Edit View Help

(kali@kali)~[~/OSLab]
$ touch prime.sh

(kali@kali)~[~/OSLab]
$ nano prime.sh

(kali@kali)~[~/OSLab]
$ chmod +x prime.sh
```

```
kali@kali: ~/OSLab
File Actions Edit View Help
GNU nano 8.2 prime.sh *
echo "Enter a number:"
read number

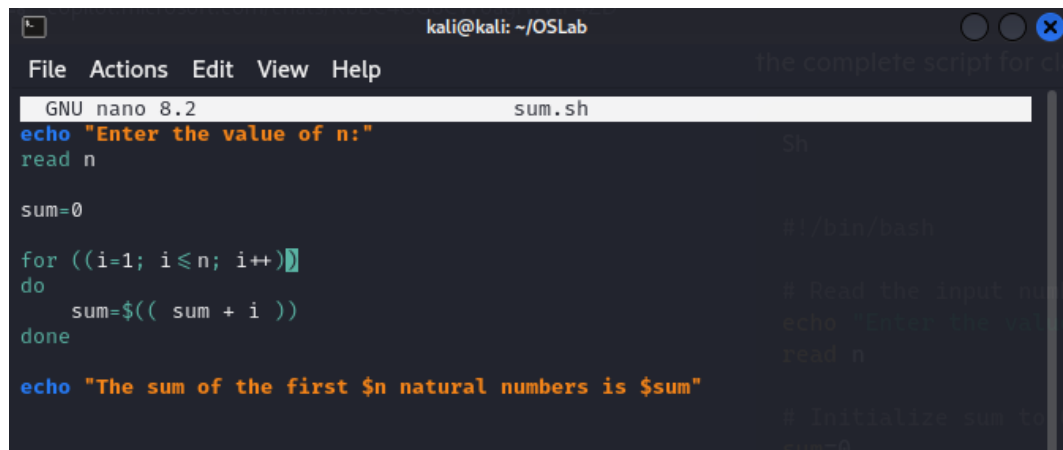
if [ $number -le 1 ]; then
    echo "$number is not a prime number."
else
    is_prime=1
    for ((i=2; i*i<=number; i++))
    do
        if [ $((number % i)) -eq 0 ]; then
            is_prime=0
            break
        fi
    done

    if [ $is_prime -eq 1 ]; then
        echo "$number is a prime number."
    else
        echo "$number is not a prime number."
    fi
fi
```

```
(kali@kali)~[~/OSLab]
$ nano prime.sh

(kali@kali)~[~/OSLab]
$ ./prime.sh
Enter a number:
11
11 is a prime number.
```

d) Write a shell script to find sum of n numbers.

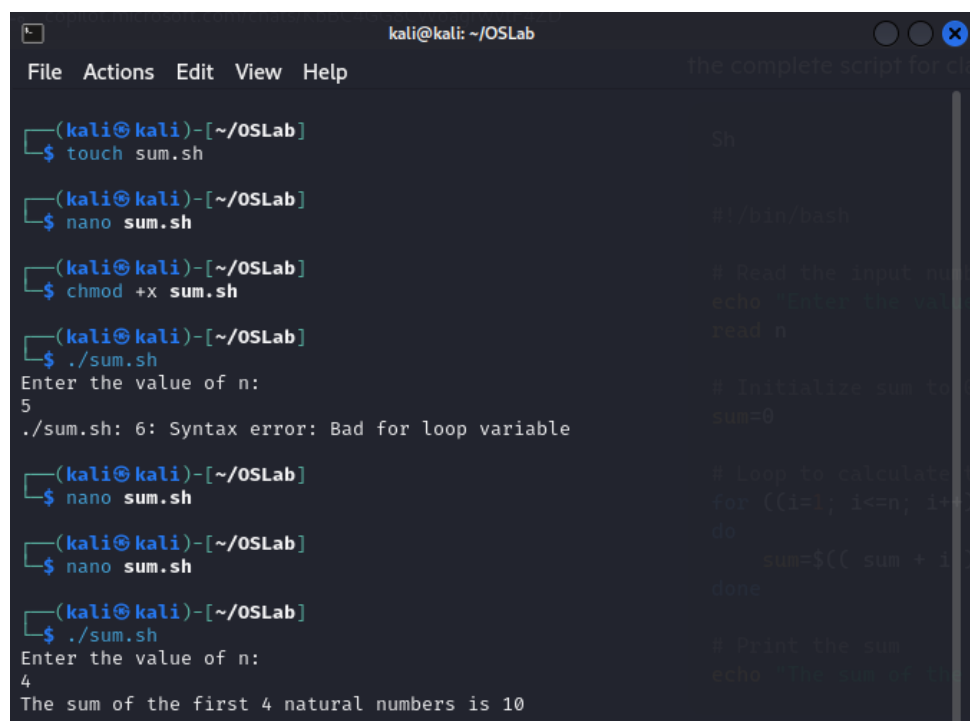


```
GNU nano 8.2 sum.sh
echo "Enter the value of n:"
read n

sum=0

for ((i=1; i<=n; i++))
do
    sum=$(( sum + i ))
done

echo "The sum of the first $n natural numbers is $sum"
```



```
kali@kali: ~/OSLab
File Actions Edit View Help
the complete script for cli

(kali@kali)-[~/OSLab]
$ touch sum.sh

(kali@kali)-[~/OSLab]
$ nano sum.sh

(kali@kali)-[~/OSLab]
$ chmod +x sum.sh

(kali@kali)-[~/OSLab]
$ ./sum.sh
Enter the value of n:
5
./sum.sh: 6: Syntax error: Bad for loop variable

(kali@kali)-[~/OSLab]
$ nano sum.sh

(kali@kali)-[~/OSLab]
$ nano sum.sh

(kali@kali)-[~/OSLab]
$ ./sum.sh
Enter the value of n:
4
The sum of the first 4 natural numbers is 10
```

e) Write a shell script to find the largest number of three numbers.

```
kali@kali: ~/OSLab
File Actions Edit View Help

(kali@kali)-[~/OSLab]
$ touch three.sh

(kali@kali)-[~/OSLab]
$ nano three.sh

(kali@kali)-[~/OSLab]
$ chmod +x three.sh

(kali@kali)-[~/OSLab]
$ ./three.sh
Enter the first number:
1
Enter the second number:
5
Enter the third number:
8
The largest number is 8
```

```
kali@kali: ~/OSLab
File Actions Edit View Help
GNU nano 8.2 three.sh
echo "Enter the first number:"
read num1
echo "Enter the second number:"
read num2
echo "Enter the third number:"
read num3

if [ $num1 -ge $num2 ] && [ $num1 -ge $num3 ]
then
    largest=$num1
elif [ $num2 -ge $num1 ] && [ $num2 -ge $num3 ]
then
    largest=$num2
else
    largest=$num3
fi
echo "The largest number is $largest"
```

f) Write a menu driven shell script will point the following menu and execute the give task.

- Display calendar of current month.
- Display today's date and time.
- Display username those are currently logged in the system.
- Display your name at given x,y position.
- Display your terminal number.

```
kali@kali: ~/OSLab
File Actions Edit View Help
(kali@kali)-[~]
$ cd OSLab
(kali@kali)-[~/OSLab]
$ touch cal.sh
(kali@kali)-[~/OSLab]
$ nano cal.sh
```

```
kali@kali: ~/OSLab
File Actions Edit View Help
GNU nano 8.2 cal.sh
#!/bin/bash

clear
echo "Calendar of the Month"
cal 01 2025
echo "_____ "
echo "Today's Date and Time"
date
echo "_____ "
echo "Usernames Currently Logged In"
who
echo "_____ "
echo "Your Terminal Number"
tty
echo "_____ "
read -p "Enter X position: " x
read -p "Enter Y position: " y
read -p "Enter Name: " name

tput cup $y $x
echo "$name"
```

```
kali@kali: ~/OSLab
File Actions Edit View Help
Calendar of the Month
January 2025
SPriyank We Th Fr Sa
```

```
kali@kali: ~/OSLab
File Actions Edit View Help
Calendar of the Month
  January 2025
Su Mo Tu We Th Fr Sa
      1  2  3  4
 5  6  7  8  9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30 31

-----
Today's Date and Time
Sun Jan 26 12:29:45 PM IST 2025

-----
Usernames Currently Logged In
kali      tty7      2025-01-26 12:04 (:0)

-----
Your Terminal Number
/dev/pts/0

-----
Enter X position: 1
Enter Y position: 2
Enter Name: Priyank
```