

OST LAB

Week 3

Udeet Mittal

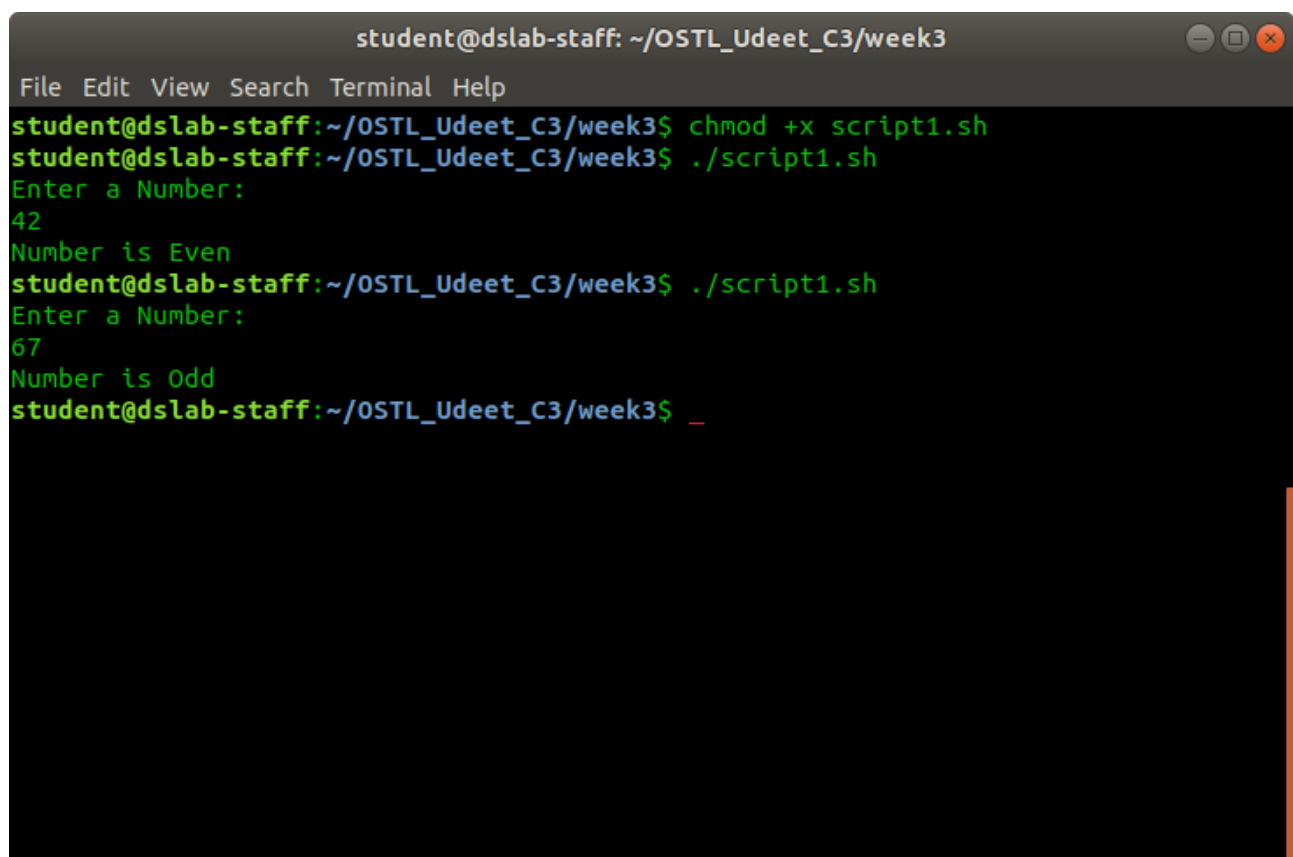
CSE C3

Roll Number 64

1.

filename: script1.sh

```
echo "Enter a Number:"
read num
if [[ $(expr $num % 2 ) = "0" ]]
then
    echo "Number is Even"
else
    echo "Number is Odd"
fi
```

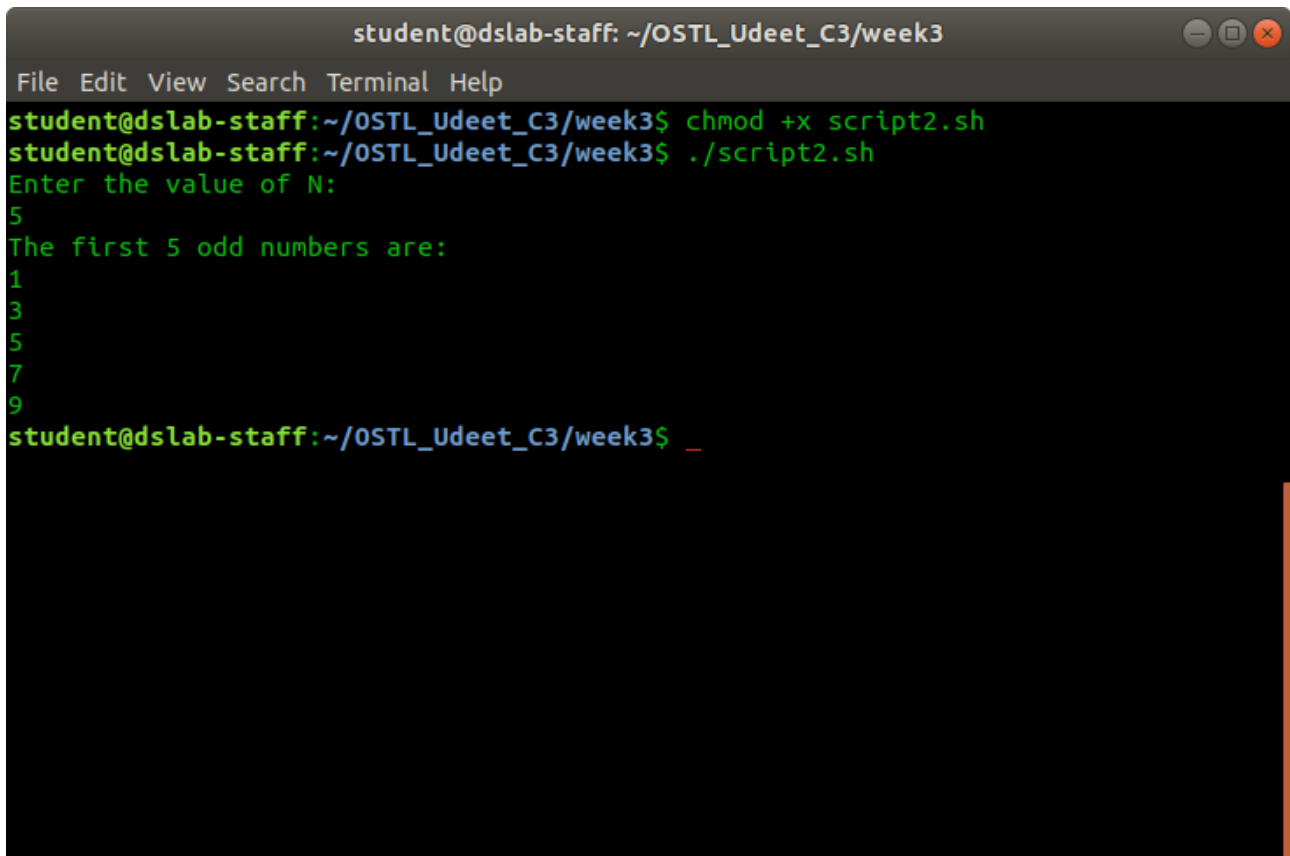
A terminal window titled 'student@dslab-staff: ~/OSTL_Udeet_C3/week3' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the execution of a script named 'script1.sh'. The user runs 'chmod +x script1.sh' and then './script1.sh'. The script prompts 'Enter a Number:' and the user enters '42'. The script outputs 'Number is Even'. The user runs './script1.sh' again, enters '67', and the script outputs 'Number is Odd'. The prompt ends with an underscore character.

```
student@dslab-staff: ~/OSTL_Udeet_C3/week3
File Edit View Search Terminal Help
student@dslab-staff:~/OSTL_Udeet_C3/week3$ chmod +x script1.sh
student@dslab-staff:~/OSTL_Udeet_C3/week3$ ./script1.sh
Enter a Number:
42
Number is Even
student@dslab-staff:~/OSTL_Udeet_C3/week3$ ./script1.sh
Enter a Number:
67
Number is Odd
student@dslab-staff:~/OSTL_Udeet_C3/week3$ _
```

2.

filename: script2.sh

```
echo "Enter the value of N:"
read n
i=1
x=1
echo "The first $n odd numbers are:"
until [ $i -gt $n ]
do
    echo $x
    x=`expr $x + 2`
    i=`expr $i + 1`
done
```

A terminal window titled 'student@dslab-staff: ~/OSTL_Udeet_C3/week3' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the execution of a script. The prompt is 'student@dslab-staff:~/OSTL_Udeet_C3/week3\$'. The first command is 'chmod +x script2.sh'. The second command is './script2.sh'. The script prompts 'Enter the value of N:' and the user enters '5'. The script then outputs 'The first 5 odd numbers are:' followed by the numbers 1, 3, 5, 7, and 9 on separate lines. The prompt returns to 'student@dslab-staff:~/OSTL_Udeet_C3/week3\$' with a cursor.

```
student@dslab-staff: ~/OSTL_Udeet_C3/week3
File Edit View Search Terminal Help
student@dslab-staff:~/OSTL_Udeet_C3/week3$ chmod +x script2.sh
student@dslab-staff:~/OSTL_Udeet_C3/week3$ ./script2.sh
Enter the value of N:
5
The first 5 odd numbers are:
1
3
5
7
9
student@dslab-staff:~/OSTL_Udeet_C3/week3$ _
```

3.

filename: script3.sh

```

echo "Enter the values a,b,c of a quadratic equation"
read a
if [ $a = 0 ]
then
    echo "Not a Quadratic Equation"
    exit 0
fi
read b
read c
real=0.0
x1=0
x2=0
sq=0
imag=0.0
D=`expr $b \* $b - 4 \* $a \* $c`
echo "The Discriminant is $D"
if [ $D -ge 0 ]
then
    disc="r"    #roots are real
else
    disc="i"    #roots are imaginary
fi
case $disc in
    "r")
        sq=$(echo "sqrt($D)" | bc -l)
        x1=$(echo "((-1*$b+$sq)/(2*$a))" | bc -l)
        x2=$(echo "((-1*$b-$sq)/(2*$a))" | bc -l)
        echo "Roots are $x1 and $x2"
        ;;
    "i")
        sq=$(echo "sqrt(-1*$D)" | bc -l)
        real=$(echo "((-1*$b)/(2*$a))" | bc -l)
        imag=$(echo "$sq/(2*$a)" | bc -l)
        echo "Root1 is $real + i$imag"
        ;;
esac

```

```
student@dslab-staff: ~/OSTL_Udeet_C3/week3
File Edit View Search Terminal Help
student@dslab-staff:~/OSTL_Udeet_C3/week3$ chmod +x script3.sh
student@dslab-staff:~/OSTL_Udeet_C3/week3$ ./script3.sh
Enter the values a,b,c of a quadratic equation
1
4
4
The Discriminant is 0
Roots are -2.00000000000000000000 and -2.00000000000000000000
student@dslab-staff:~/OSTL_Udeet_C3/week3$ ./script3.sh
Enter the values a,b,c of a quadratic equation
1
1
1
The Discriminant is -3
Root1 is -.50000000000000000000 + i
Root2 is -.50000000000000000000 - i
student@dslab-staff:~/OSTL_Udeet_C3/week3$ _
```

4.

filename: script4.sh

```
echo "Enter a Number:"
read num
x=$num
f=1
while [ $num -gt 0 ]
do
    f=`expr $f \* $num`
    num=`expr $num - 1`
done
echo "Factorial of $x = $f"
```

student@dslab-staff: ~/OSTL_Udeet_C3/week3

File Edit View Search Terminal Help

```
student@dslab-staff:~/OSTL_Udeet_C3/week3$ chmod +x script4.sh
```

```
student@dslab-staff:~/OSTL_Udeet_C3/week3$ ./script4.sh
```

Enter a Number:

5

Factorial of 5 = 120

```
student@dslab-staff:~/OSTL_Udeet_C3/week3$ _
```