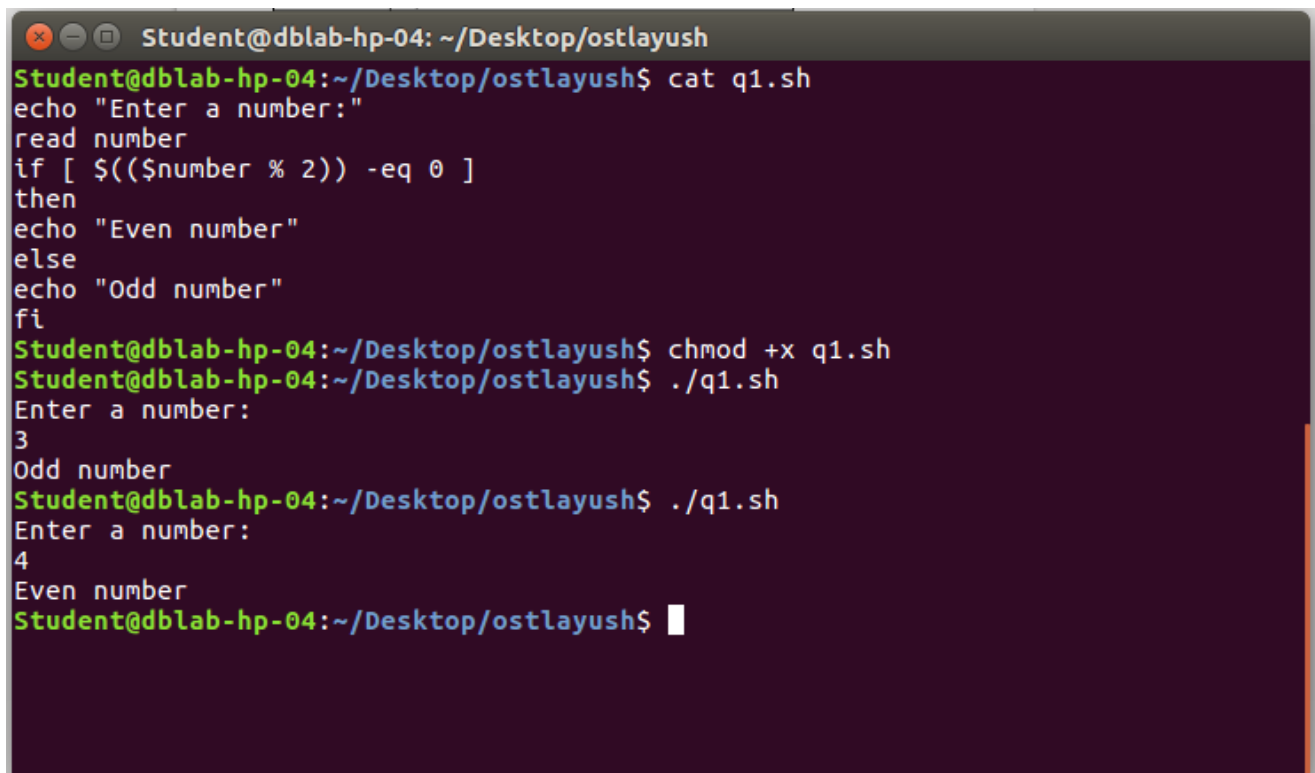


Ayush Goyal  
190905522

### OST LAB 3 (Week 3)

Q1)

```
echo "Enter a number:"
read number
if [ $((number % 2)) -eq 0 ]
then
echo "Even number"
else
echo "Odd number"
fi
```



```
Student@dblab-hp-04: ~/Desktop/ostlayush
Student@dblab-hp-04:~/Desktop/ostlayush$ cat q1.sh
echo "Enter a number:"
read number
if [ $((number % 2)) -eq 0 ]
then
echo "Even number"
else
echo "Odd number"
fi
Student@dblab-hp-04:~/Desktop/ostlayush$ chmod +x q1.sh
Student@dblab-hp-04:~/Desktop/ostlayush$ ./q1.sh
Enter a number:
3
Odd number
Student@dblab-hp-04:~/Desktop/ostlayush$ ./q1.sh
Enter a number:
4
Even number
Student@dblab-hp-04:~/Desktop/ostlayush$
```

Q2)

```
echo "Enter n:"
read n
i=1
while [ $n != 0 ]
do
if [ $((i % 2)) != 0 ]
then
echo "$i"
n=$((n - 1))
fi
i=$((i + 1))
done
```

```
Student@dblab-hp-04: ~/Desktop/ostlayush
Student@dblab-hp-04:~/Desktop/ostlayush$ cat q2.sh
echo "Enter n :"
read n
i=1
while [ $n != 0 ]
do
if [ $(( $i % 2 )) != 0 ]
then
echo "$i"
n=$(( $n - 1 ))
fi
i=$(( $i + 1 ))
done
Student@dblab-hp-04:~/Desktop/ostlayush$ chmod +x q2.sh
Student@dblab-hp-04:~/Desktop/ostlayush$ ./q2.sh
Enter n :
4
1
3
5
7
Student@dblab-hp-04:~/Desktop/ostlayush$
```

Q3)

```
echo "Enter a b c coefficients"
read a b c
D=`expr $((b*b-4*a*c))`
echo "Discriminant is $D"
disc="e"
if [ $D -gt 0 ]
then
disc="r"
elif [ $D -lt 0 ]
then
disc="i"
fi
case $disc in
"e")
root1=$(echo "((-1*$b)/(2*$a))" | bc -l)
root2=$(echo "((-1*$b)/(2*$a))" | bc -l)
echo "Roots are $root1 and $root2"
;;
"r")
rootD=$(echo "sqrt($D)" | bc -l)
root1=$(echo "((-1*$b+$rootD)/(2*$a))" | bc -l)
root2=$(echo "((-1*$b-$rootD)/(2*$a))" | bc -l)
echo "Roots are $root1 and $root2"
;;
"i")
rootD=$(echo "sqrt(-1*$D)" | bc -l)
real=$(echo "((-1*$b)/(2*$a))" | bc -l)
img=$(echo "$rootD/(2*$a)" | bc -l)
echo "Root1 is $real + i$img"
echo "Root2 is $real - i$img"
;;
esac
```

```

Student@dblab-hp-04: ~/Desktop/ostlayush
Student@dblab-hp-04:~/Desktop/ostlayush$ chmod +x q3.sh
Student@dblab-hp-04:~/Desktop/ostlayush$ ./q3.sh
Enter a b c coefficients:
4 4 1
Discriminant is 0
Roots are -.50000000000000000000 and -.50000000000000000000
Student@dblab-hp-04:~/Desktop/ostlayush$ ./q3.sh
Enter a b c coefficients:
2 5 2
Discriminant is 9
Roots are -.50000000000000000000 and -2.00000000000000000000
Student@dblab-hp-04:~/Desktop/ostlayush$ ./q3.sh
Enter a b c coefficients:
5 2 7
Discriminant is -136
Root1 is -.20000000000000000000 + i1.16619037896906009417
Root2 is -.20000000000000000000 - i1.16619037896906009417
Student@dblab-hp-04:~/Desktop/ostlayush$

```

Q4)

```

echo "Enter number : "
read n
f=1
while [ $n != 0 ]
do
f=$((n*f))
n=$((n - 1))
done
echo "Factorial is $f"

```

```

Student@dblab-hp-04: ~/Desktop/ostlayush
echo "Enter number:"
read n
f=1
while [ $n != 0 ]
do
f=$((n*f))
n=$((n - 1))
done
echo "Factorial is $f"
^C
Student@dblab-hp-04:~/Desktop/ostlayush$ chmod +x q4.sh
Student@dblab-hp-04:~/Desktop/ostlayush$ ./q4.sh
Enter number:
5
Factorial is 120
Student@dblab-hp-04:~/Desktop/ostlayush$ ./q4.sh
Enter number:
4
Factorial is 24
Student@dblab-hp-04:~/Desktop/ostlayush$ ./q4.sh
Enter number:
6
Factorial is 720
Student@dblab-hp-04:~/Desktop/ostlayush$

```