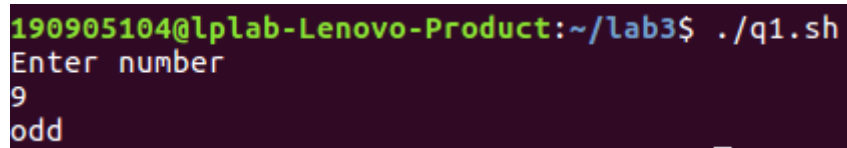


## Week 3

1)

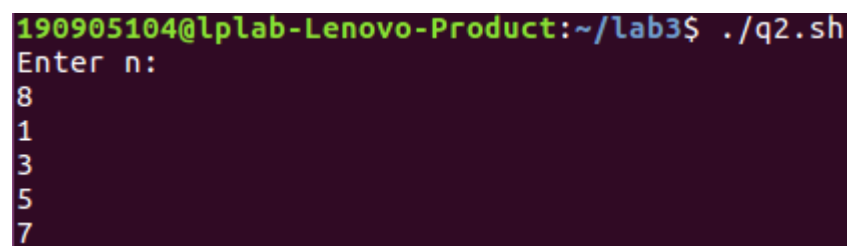
```
echo "Enter number"
read n
no=`expr \( $n \% 2 \)`
if [ $no -eq 0 ]
then
echo "even"
else
echo "odd"
fi
```

A terminal window showing the execution of script q1.sh. The prompt is 190905104@lplab-Lenovo-Product:~/lab3\$. The user enters ./q1.sh, then Enter number, then 9, and finally odd.

```
190905104@lplab-Lenovo-Product:~/lab3$ ./q1.sh
Enter number
9
odd
```

2)

```
echo "Enter n:"
read n
i=1
while test $i -le $n
do
no=`expr \( $i \% 2 \)`
if [ $no != 0 ]
then
echo $i
fi
i=`expr \( $i + 1 \)`
done
```

A terminal window showing the execution of script q2.sh. The prompt is 190905104@lplab-Lenovo-Product:~/lab3\$. The user enters ./q2.sh, then Enter n:, then 8, and finally a list of odd numbers from 1 to 7.

```
190905104@lplab-Lenovo-Product:~/lab3$ ./q2.sh
Enter n:
8
1
3
5
7
```

3)

```
echo "Enter a, b and c"
read a
read b
read c
d=`expr $b \* $b - 4 \* $a \* $c`
echo $d

if [ $d -gt 0 ]
then
```

```

q="r"
echo "Real and distinct roots"
elif [ $d -lt 0 ]
then
q="i"
echo "Imaginary roots"
else
echo "Real and equal roots"
q="e"
fi
case $q in
"r")
d=`echo "scale=4; sqrt($d)" | bc`
s1=`echo "(-1*$b)/(2*$a)" | bc`
s2=`echo "($d)/(2*$a)" | bc`
r1=`echo "($s1+$s2)" | bc`
r2=`echo "($s1-$s2)" | bc`
echo "Root1: $r1 Root2: $r2"
;;
"e")
d=`echo "scale=4; sqrt($d)" | bc`
s1=`echo "(-1*$b)/(2*$a)" | bc`
s2=`echo "($d)/(2*$a)" | bc`
r1=`echo "($s1+$s2)" | bc`
echo "Root: $r1"
;;
"i")
d=`echo "-1*$d" | bc`
d=`echo "scale=4; sqrt($d)" | bc`
s1=`echo "(-1*$b)/(2*$a)" | bc`
s2=`echo "($d)/(2*$a)" | bc`
echo "Root1: $s1 + $s2 i"
echo "Root2: $s1 - $s2 i"
;;
esac

```

```

190905104@lplab-Lenovo-Product:~/lab3$ ./q3.sh
Enter a, b and c
1
4
4
0
Real and equal roots
Root: -2
190905104@lplab-Lenovo-Product:~/lab3$ ./q3.sh
Enter a, b and c
1
3
7
-19
Imaginary roots
Root1: -1 + 2 i
Root2: -1 - 2 i
190905104@lplab-Lenovo-Product:~/lab3$ ./q3.sh
Enter a, b and c
1
2
4
-12
Imaginary roots
Root1: -1 + 1 i
Root2: -1 - 1 i
190905104@lplab-Lenovo-Product:~/lab3$ ./q3.sh
Enter a, b and c
1
5
4
9
Real and distinct roots
Root1: -1 Root2: -3

```

```

4)
echo "Enter n:"
read n
p=1
i=1
while [ $i -le $n ]
do
p=`expr \($p \* $i \)`
i=$((i+1))
done
echo $p

```

```
190905104@lplab-Lenovo-Product:~/lab3$ ./q4.sh  
Enter n:  
5  
120  
190905104@lplab-Lenovo-Product:~/lab3$
```