LAB ASSIGNMENT 4

Ques 1. Write a shell script to display numbers between 1 to 100 using while loop.

```
i=1
while [ $i -le 100 ]
do
    echo $i
    i=`expr $i + 1`
done
```

Output

```
nikhil@ubuntu:~/Lab4$ sh ques1_1_to_100.sh
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
```

Ques 2. Input a 3 digit number and display the sum of digits.

```
echo "Enter a Number"
read num
sum=0
while [ $num -gt 0 ]
do
mod=`expr $num % 10`
sum=`expr $sum + $mod`
num=`expr $num / 10`
done
echo $sum
```

Output

```
nikhil@ubuntu:~/Lab4$ sh ques3_Sum_of_Digit.sh
Enter a Number
123
6
nikhil@ubuntu:~/Lab4$
```

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Ques 3. Input a number and check number is palindrome or not.

```
echo "Enter a Number : "
read a
sum=0
num=$a
while [ $num -gt 0 ]
do
d=`expr $num % 10`
sum=`expr $sum \* 10 + $d`
num=`expr $num / 10`
done
if [ $sum -eq $a ]
then
echo "Palindrome Number"
else
echo "Not a Palindrome Number"
fi
```

Output

```
nikhil@ubuntu:~/Lab4$ sh ques4_palindrome.sh
Enter a Number :
16461
Palindrome Number
nikhil@ubuntu:~/Lab4$
```

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Ques 4. Write a shell Script to input a number and check number is armstrong or not.

```
echo "Enter the number"
read number


revNumber=0
loopCounter=$number

while [ $loopCounter -gt 0 ]
do
lastDigit=`expr $loopCounter % 10`
revNumber=`expr $revNumber + $lastDigit \* $lastDigit \*
$lastDigit`
loopCounter=`expr $loopCounter / 10`
done

if [ $number -eq $revNumber ]
then
echo "Your number is Armstrong Number"
else
echo "Your number is not Armstrong Number"
fi
```

Output

```
nikhil@ubuntu:~/Lab4$ sh armstrong.sh
Enter the number
153
Your number is Armstrong Number
nikhil@ubuntu:~/Lab4$
```

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Ques 5. Find the Fibonacci series in n terms.

```
echo "Enter numbers of terms:"
read n

nextTerm=1
term=0
echo "$term"
echo "$nextTerm"

while [ $n -gt 0 ]
do
sum=`expr $term + $nextTerm`
echo "$sum"
term=`expr $nextTerm`
nextTerm=`expr $sum`

n=`expr $n - 1`
done
```

Output

```
nikhil@ubuntu:~/Lab4$ sh fibonacci.sh
number of terms of fiboonaco series
5
0
1
1
2
3
5
8
nikhil@ubuntu:~/Lab4$ 
```

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Ques 6. Write a shell script to display the prime no between ranges.

```bash
echo "Enter the range num1 and num2:"
read num1 num2
echo "Given range from user is $num1 anf $num2 "
echo "Prime Numbers are:"
while [ $num1 -le $num2 ]
do
i=2; flag=1
while [ $i -lt $num1 ]
    do
        if [ `expr $num1 % $i` -eq 0 ]
        then
            flag=0
            break
        else
            i=`expr $i + 1`
        fi
    done
    if [ $flag -eq 1 ]
    then
        echo $num1
    fi
    num1=`expr $num1 + 1`
done
```

Output

```
nikhil@ubuntu:~/Lab4$ bash ques6_prime.sh
Enter the range num1 and num2:
10 20
Given range from user is 10 anf 20
Prime Numbers are:
11
13
17
19
nikhil@ubuntu:~/Lab4$
```

Ques 7. Write a shell script to display the grade system of KIIT University based on total marks secured by a student in a semester. Assume marks are integer values. Use switch-case statement.

The grade is calculated is as follows:

Marks Grade
90 to 100 O
80 to 89 E
70 to 79 A
60 to 69 B
50 to 59 C
40 to 49 D
< 40 F

```
echo "Enter total marks of students"
read n
case $n in
100)
echo "O" ;;
9[0-9]) echo "O" ;;
8[0-9])echo "E" ;;
7[0-9]) echo "A" ;;
6[0-9]) echo "B" ;;
5[0-9]) echo "C" ;;
4[0-9]) echo "D" ;;
*)
echo "F";;
esac
```

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Output

```
nikhil@ubuntu:~/Lab4$ sh ques2_grade.sh
Enter total marks of students
89
E
```