Practical – 7

1)Write a shell script to find factorial of given number n

```
echo "Patel Abhi    RameshKumar 180410107060 (CE-1) Batch-D "
 echo "Practical-7"
 echo "Enter a number"
 read num
 fact=1
 for((i=2;i<=num;i++))
 {
 fact=$((fact * i))
 }
 echo $fact
```

Input

```
5
```

Output

```
Patel Abhi RameshKumar 180410107060 (CE-1) Batch-D
Practical-7
Enter a number
120
```

2) write a shell script to find whether given number is prime or not

```
echo " Patel Abhi RameshKumar 180410107060 (CE-1) Batch-D "
echo "Practical-7"
echo "Enter the number"
read a
i=2
z=0
echo $a
while [ $i -lt $a ]
do
s=`expr $a % $i`
if [ $s -eq $z ]
then
echo "Not Prime"
exit
else
i=`expr $i + 1`
fi
done
echo "Prime number"
```

Input

```
17
```

Output

```
Patel Abhi RameshKumar 180410107060 (CE-1) Batch-D
Practical-7
Enter the number
17
Prime number
```

Practical – 8

1).Write a shell script to check entered string is palindrome or not

```
echo " Patel Abhi RameshKumar 180410107060 (CE-1) Batch-D "
echo "Practical-8"
echo -n "Enter number : "
read n
sd=0
rev=""
on=$n
echo $n
while [ $n -gt 0 ]
do
     sd=$(( $n % 10 )) # get Remainder
       n=$(( $n / 10 ))    # get next digit
       # store previous number and current digit in reverse
       rev=$( echo ${rev}${sd} )
done
if [ $on -eq $rev ];
then
   echo "Number is palindrome"
else
   echo "Number is NOT palindrome"
fi
```

Input

```
1771
```

Output

```
 Patel Abhi RameshKumar 180410107060 (CE-1) Batch-D
Practical-8
Enter number : 1771
Number is palindrome
```

2) Write a shell script which will generate first n Fibonacci numbers like: 1, 1, 2, 3, 5, 8,…

```
echo " Patel Abhi RameshKumar 180410107060 (CE-1) Batch-D "
echo "Practical-8"
echo "Enter a number"
read N
a=0
b=1
echo "The Fibonacci series is : "
for (( i=0; i<N; i++ ))
do
    echo -n "$a "
    fn=$((a + b))
    a=$b
    b=$fn
done
```

Input

```
7
```

Output

```
 Patel Abhi RameshKumar 180410107060 (CE-1) Batch-D
Practical-8
Enter a number
The Fibonacci series is :
0 1 1 2 3 5 8
```

Practical – 9

Write a shell script to generate mark sheet of a student. Take 3 subjects, calculate and display total marks, percentage and Class obtained by the student.

```
echo " Patel Abhi RameshKumar 180410107060 (CE-1) Batch-D "
echo "Practical-9"
echo "Enter the three subject marks for the student"
read m1 m2 m3
sum1=`expr $m1 + $m2 + $m3`
echo "Sum of 3 subjects are:" $sum1
per=`expr $sum1 / 3`
echo "Percentage:" $per
if [ $per -ge 60 ]
then
echo "You get Distinction"
elif [ $per -ge 50 ]
then
echo "You get First class"
elif [ $per -ge    40 ]
then
echo "You get Second class"
else
        echo "You get Fail"
fi
```

Input

```
80 80 80
```

Output

```
Patel Abhi RameshKumar 180410107060 (CE-1) Batch-D
Practical-9
Enter the three subject marks for the student
Sum of 3 subjects are: 240
Percentage: 80
You get Distinction
```

Practical-10

1). Write a menu driven shell script to make calculator using switch case.

```
echo " Patel Abhi RameshKumar 180410107060 (CE-1) Batch-D "


read a

read b


echo "Enter Choice :"

echo "1. Addition"

echo "2. Subtraction"

echo "3. Multiplication"

echo "4. Division"

read ch


case $ch in

1)res=`echo $a + $b | bc`

;;

2)res=`echo $a - $b | bc`

;;

3)res=`echo $a \* $b | bc`

;;

4)res=`echo "scale=2; $a / $b" | bc`

;;

esac

echo "Result : $res"
```

Input

```
2
3
1
```

Output

```
 Patel Abhi RameshKumar 180410107060 (CE-1) Batch-D
Enter Choice :
1. Addition
2. Subtraction
3. Multiplication
4. Division
Result : 5
```

Input

```
6
3
2
```

Output

```
 Patel Abhi RameshKumar 180410107060 (CE-1) Batch-D
Enter Choice :
1. Addition
2. Subtraction
3. Multiplication
4. Division
Result : 3
```

2) Write a shell script to validate the entered date.

```
echo " Patel Abhi RameshKumar 180410107060 (CE-1) Batch-D "

echo "Practical 10"
usrdate=$1
date -d "$usrdate"    > /dev/null 2>&1
if [ $? -eq 0 ]; then
        echo "Date $usrdate was valid"
else
        echo "Date $usrdate was invalid"
fi
```

Input

```
20-03-2020
```

Output

```
 Patel Abhi RameshKumar 180410107060 (CE-1) Batch-D
Practical 10
Date  was valid
```