Armstrong number

```
#!/bin/bash
echo "Enter the number : "
read num
idigit=0
temp=$num
while [ $num -ne 0 ];
do
        irem=$((num % 10))
        idigit=$((idigit+irem*irem*irem))
        num=$((num / 10))
done

if [ $temp -eq $idigit ]
then
        echo " Armstrong number "
else
        echo "Not armstrong number "
fi
```

Palindrome Number

```
#!/bin/bash
echo "Enter the number : "
read num
idigit=0
temp=$num
while [ $num -ne 0 ];
do
        irem=$((num % 10))
        idigit=$((idigit*10+irem))
        num=$((num / 10))
done

if [ $temp -eq $idigit ]
then
        echo " Palindrome number  "
else
        echo "Not palindrome number  "
fi
```

Prime Number

```
student@student-VirtualBox:~$ bash prime3.sh
Enter the number :
41
 Prime number
student@student-VirtualBox:~$ cat prime3.sh
#!/bin/bash
echo "Enter the number :"
read number
f=1
for((i=2;i<$number;i++));
do
if [ $((number%i)) -eq 0 ]
then
f=0
fi
done
if [ $f -eq 0 ]
then
        echo " Not Prime number "
else
        echo " Prime number "
fi
```

Even & odd

```
student@student-VirtualBox:~$ cat evodd.sh
#!/bin/bash
echo "enter a number :"
read number
if [ $((number%2)) -eq 0 ]
then
echo "number is even"
else
echo "number is odd"
fi

student@student-VirtualBox:~$ bash evodd.sh
enter a number :
12
number is even
student@student-VirtualBox:~$ bash evodd.sh
enter a number :
1
number is odd
```

Greatest of three number

```
student@student-VirtualBox:~$ cat max3.sh
#!/bin/bash
echo "enter num1"
read num1
echo "enter num2"
read num2
echo "enter num3"
read num3
if [ $num1 -gt $num2 ] && [ $num1 -gt $num3 ]
then
echo "num1 is greatest"
elif [ $num2 -gt $num1 ] && [ $num2 -gt $num3 ]
then
echo "num2 is greatest"
else
echo "num3 is greatest"
fi

student@student-VirtualBox:~$ bash max3.sh
enter num1
10
enter num2
12
enter num3
13
num3 is greatest
```

Factorial of number

```
student@student-VirtualBox:~$ cat fact.sh
#!/bin/bash
echo "enter a number"
read num
fact=1
for((i=1;i<=$num;i++))
do
 fact=$((fact*i))
done
echo $fact
student@student-VirtualBox:~$ bash fact.sh
enter a number
5
120
```

Triangle pattern

```
student@student-VirtualBox:~$ cat pattern.sh
#!/bin/bash
for((i=1;i<=5;i++))
do
  for((j=1;j<=i;j++))
   do
     echo -n "*"
   done
 echo "  "
done

student@student-VirtualBox:~$ bash pattern.sh
*
**
***
****
*****
```

```
student@student-VirtualBox:~$ cat pattern.sh
#!/bin/bash
for((i=1;i<=5;i++))
do
  for((j=5;j>=i;--j))
   do
     echo -n "*"
   done
 echo "  "
done

student@student-VirtualBox:~$ bash pattern.sh
*****
****
***
**
*
```

Addition of two number

```
student@student-VirtualBox:~$ cat add.sh
#!/bin/bash
echo "Enter Number 1 : "
read num1
echo "Enter Number 2: "
read num2

c=$((num1+num2))
echo "The addition is : " $c
student@student-VirtualBox:~$ bash add.sh
Enter Number 1 :
10
Enter Number 2:
20
The addition is :  30
```

Switch :

```
#!/bin/bash
echo -e "1.Addition \n 2.Substraction \n 3.MUltiplication "
read -p "Choose an option :-" num

case $num in
        1)
                echo "Enter first number : "
                read num1
                echo "Enter second number : "
                read num2
                num3=$((num1+num2))
                echo "The addition of two numbers is : " $num3
        ;;
        2)
                echo "Enter first number : "
                read num1
                echo "Enter second number : "
                read num2
                num3=$((num1-num2))
                echo "The substraction of two numbers is : " $num3
        ;;
        3)
                echo "Enter the first number : "
                read num1
                echo "Enter the second number : "
                read num2
                num3=$((num1*num2))
                echo "The multiplication of two numbers : " $num3
        ;;
        *)
                echo " Good bye enter a valid choice"
        ;;
esac
```

Square pattern

```
******
******
******
******
student@student-VirtualBox:~$ cat pattern4.sh
#!/bin/bash
for((i=0;i<4;i++));
do
   for((j=6;j>=1;--j))
   do
        echo -n "*"
   done
echo " "
done
```

Greatest of two number :

```
Enter the first number :
5555
Enter the second number:
1
5555 is greater number
student@student-VirtualBox:~$ cat max2.sh
#!/bin/bash
echo "Enter the first number : "
read num1
echo "Enter the second number: "
read num2
if [ $num1 -gt $num2 ]
then
        echo "$num1 is greater number"
else
        echo "$num2 is greater number"
fi
```

Positive and negative number :

```
Enter the number : '
15
15 is positive
student@student-VirtualBox:~$ bash postive.sh
Enter the number : '
-45
-45 is negative
student@student-VirtualBox:~$ cat postive.sh
#!/bin/bash
echo "Enter the number : '"
read num
if [ $num -gt 0 ]
then
        echo "$num is positive"
else
        echo "$num is negative"
fi
```

Divisible by 5 and 11

```
Enter number :
55
55 is divisible by 5 and 11
student@student-VirtualBox:~$ bash div_5_and_9.sh
Enter number :
125
125 is not divisible by 5 and 11
student@student-VirtualBox:~$ cat div_5_and_9.sh
#!/bin/bash
echo "Enter number : "
read num

if [ $((num%5)) -eq 0 ] && [ $((num%11)) -eq 0 ]
then
        echo "$num is divisible by 5 and 11 "
else
        echo "$num is not divisible by 5 and 11"
fi
```

Leap year

```
student@student-VirtualBox:~$ bash leap.sh
Enter the year :
2024
2024 Leap year
student@student-VirtualBox:~$ bash leap.sh
Enter the year :
1998
1998 is not leap year
student@student-VirtualBox:~$ bash leap.sh
Enter the year :
2028
2028 Leap year
student@student-VirtualBox:~$ ^C

student@student-VirtualBox:~$ cat leap.sh
#!/bin/bash
echo "Enter the year : "
read year
if [ $((year%4)) -eq 0 ] || [ $((year%400)) -eq 0 ]
then
        echo "$year Leap year"
else
        echo "$year is not leap year"
fi
```