**1.Write a Python program to check if a Number is Positive, Negative or Zero ?**

In [1]:

**def** checkNumber(num):

**if** num **>** 0:

print('{} is a Postive number'**.**format(num))

**elif** num **<** 0:

print('{} is a Negative number'**.**format(num))

**else**:

print("Number is Zero")

num **=** int(input("Enter a number: "))

checkNumber(num)

Enter a number: -25

-25 is a Negative number

**2.Write a Python program to check if a Number is Odd or Even ?**

In [2]:

**def** checkNumber(num):

**if** num**%2** == 0:

print('{} is a Even number'**.**format(num))

**else**:

print('{} is a Odd number'**.**format(num))

num **=** int(input("Enter a number: "))

checkNumber(num)

Enter a number: 25

25 is a Odd number

**3.Write a Python program to check Leap Year ?**

In [3]:

**def** checkYear(year):

**if** (year**%4** == 0 and year%100 != 0 or year%400 == 0):

print(f'{year} is a Leap year')

**else**:

print(f'{year} is not a Leap year')

year **=** int(input("Enter year: "))

checkYear(year)

Enter year: 1966

1966 is not a Leap year

**4.Write a Python program to check Prime Number ?**

In [4]:

**def** isPrime(num):

flag **=** **False**

**for** i **in** range(2,num):

**if** num**%i** ==0:

flag**=** **True**

**break**

**if**(**not** flag):

print(f'{num} is a prime number')

**else**:

print(f'{num} is not a prime number')

number **=** int(input("Enter a number: "))

isPrime(number)

Enter a number: 29

29 is a prime number

**5.Write a Python program to print all Prime Numbers in an interval of 1-10000 ?**

In [7]:

primeNumbersList **=** []

**def** generatePrimeNumbers():

**for** x **in** range(1,10000):

flag**=False**

**for** y **in** range(2,x):

**if** (x**%y** ==0):

flag **=** **True**

**break**

**if** (**not** flag):

primeNumbersList**.**append(x)

generatePrimeNumbers()

print(primeNumbersList)