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

def checkNumber(num):

if num > 0:

print('{} is a Positive 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 ?

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 ?

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 ?

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 ?

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)

[1, 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97, 101, 103, 107, 109, 113, 127, 131, 137, 139, 149, 151, 157, 163, 167, 173, 179,....]