1. Write a Python Program to Check if a Number is Positive, Negative or Zero?

Sol:- num = float(input("Enter a number: "))

if num > 0:

print("Positive number")

elif num == 0:

print("Zero")

else:

print("Negative number")

1. Write a Python Program to Check if a Number is Odd or Even?

Sol:- num = int(input("Enter a number: "))

if num % 2 == 0:

print(num, "is even")

else:

print(num, "is odd")

1. Write a Python Program to Check Leap Year?

Sol:- year = int(input("Enter a year: "))

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

print(year, "is a leap year")

else:

print(year, "is not a leap year")

1. Write a Python Program to Check Prime Number?

Sol:- def is\_prime(n):

"""

This function checks whether the given number is prime or not.

"""

if n <= 1:

return False

for i in range(2, int(n \*\* 0.5) + 1):

if n % i == 0:

return False

return True

# Test the function

print(is\_prime(5)) # True

print(is\_prime(20)) # False

1. Write a Python Program to Print all Prime Numbers in an Interval of 1-10000?

Sol:- def is\_prime(n):

"""

This function checks whether the given number is prime or not.

"""

if n <= 1:

return False

for i in range(2, int(n \*\* 0.5) + 1):

if n % i == 0:

return False

return True

# printing all prime numbers between 1 to 10000

for num in range(1, 10001):

if is\_prime(num):

print(num)