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

# Input a number

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

# Check if the number is positive, negative, or zero

if num > 0:

print("Positive")

elif num < 0:

print("Negative")

else:

print("Zero")

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

# Input a number

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

# Check if the number is odd or even

if num % 2 == 0:

print("Even")

else:

print("Odd")

1. **Write a Python Program to Check Leap Year?**

# Input a year

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

# Check if it's a leap year

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

print("Leap year")

else:

print("Not a leap year")

1. **Write a Python Program to Check Prime Number?**

# Input a number

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

# Check if it's a prime number

if num > 1:

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

if (num % i) == 0:

print("Not a prime number")

break

else:

print("Prime number")

else:

print("Not a prime number")

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

# Define a function to check if a number is prime

def is\_prime(num):

if num <= 1:

return False

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

if (num % i) == 0:

return False

return True

# Print prime numbers in the interval [1, 10000]

for num in range(1, 10001):

if is\_prime(num):

print(num)