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

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

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

if num > 0:

print("{0} is positive".format(num))

elif num == 0:

print("{0} is zero".format(num))

else:

print("{0} is negative".format(num))

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

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

# Check if the number is odd or even

if num % 2 == 0:

print("{0} is even".format(num))

else:

print("{0} is odd".format(num))

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

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

# Check if the year is a leap year

if year % 4 == 0:

if year % 100 == 0:

if year % 400 == 0:

print("{0} is a leap year".format(year))

else:

print("{0} is not a leap year".format(year))

else:

print("{0} is a leap year".format(year))

else:

print("{0} is not a leap year".format(year))

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

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

# Check if the number is a prime number

if num > 1:

for i in range(2, int(num/2)+1):

if num % i == 0:

print("{0} is not a prime number".format(num))

break

else:

print("{0} is a prime number".format(num))

else:

print("{0} is not a prime number".format(num))

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

def is\_prime(num):

if num < 2:

return False

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

if num % i == 0:

return False

return True

# Loop over the range 1-10000 and print the prime numbers

for num in range(1, 10001):

if is\_prime(num):

print(num)