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

python

Copy code

# Function to check if a number is positive, negative, or zero

def check\_number(num):

if num > 0:

return "Positive"

elif num < 0:

return "Negative"

else:

return "Zero"

# Input number

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

# Check and print result

result = check\_number(number)

print(f"The number is {result}.")

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

python

Copy code

# Function to check if a number is odd or even

def check\_odd\_even(num):

if num % 2 == 0:

return "Even"

else:

return "Odd"

# Input number

number = int(input("Enter an integer: "))

# Check and print result

result = check\_odd\_even(number)

print(f"The number is {result}.")

**3. Write a Python Program to Check Leap Year.**

python

Copy code

# Function to check if a year is a leap year

def is\_leap\_year(year):

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

return True

else:

return False

# Input year

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

# Check and print result

if is\_leap\_year(year):

print(f"{year} is a leap year.")

else:

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

**4. Write a Python Program to Check Prime Number.**

python

Copy code

# 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

# Input number

number = int(input("Enter an integer: "))

# Check and print result

if is\_prime(number):

print(f"{number} is a prime number.")

else:

print(f"{number} is not a prime number.")

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

python

Copy code

# 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 of 1 to 10000

print("Prime numbers between 1 and 10000 are:")

for num in range(1, 10001):

if is\_prime(num):

print(num, end=' ')