**ADITYA AMIN**

**ASSIGN : 03**

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

# Get user input for the number

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

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

if num > 0:

print("The number is positive.")

elif num < 0:

print("The number is negative.")

else:

print("The number is zero.")

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

# Get user input for the number

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

# Check if the number is odd or even

if num % 2 == 0:

print("The number is even.")

else:

print("The number is odd.")

1. Write a Python Program to Check Leap Year?

# Get user input for the year

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

# Check if the year is a leap 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.")

1. Write a Python Program to Check Prime Number?

# Get user input for the number

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

# Check if the number is a prime number

if num > 1:

for i in range(2, num):

if num % i == 0:

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

break

else:

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

else:

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

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

# 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 to 10000

print("Prime numbers in the interval 1 to 10000:")

for num in range(1, 10001):

if is\_prime(num):

print(num)