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

**ANS:-**

# Default function to run if else condition

**def** NumberCheck(a):

    # Checking if the number is positive

**if** a > 0:

**print**("Number given by you is Positive")

    # Checking if the number is negative

**elif** a < 0:

**print**("Number given by you is Negative")

    # Else the number is zero

**else**:

**print**("Number given by you is zero")

# Taking number from user

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

# Printing result

NumberCheck(a)

**Output:**

Enter a number as input value: -6

Number given by you is Negative

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

**ANS:-**

**# Python program to check whether**

**# the number is positive, negative**

**# or equal to zero**

**def check(n):**

**# if the number is positive**

**if n > 0:**

**print("Positive")**

**# if the number is negative**

**elif n < 0:**

**print("Negative")**

**# if the number is equal to**

**# zero**

**else:**

**print("Equal to zero")**

**# Driver Code**

**check(5)**

**check(0)**

**check(-5)**

**Output:**

Positive

Equal to zero

Negative

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

**ANS:-**

# Default function to implement conditions to check leap year

**def** CheckLeap(Year):

  # Checking if the given year is leap year

**if**((Year % 400 == 0) **or**

     (Year % 100 != 0) **and**

     (Year % 4 == 0)):

**print**("Given Year is a leap Year");

  # Else it is not a leap year

**else**:

**print** ("Given Year is not a leap Year")

# Taking an input year from user

Year = int(input("Enter the number: "))

# Printing result

CheckLeap(Year)

**Output:**

Enter the number: 1700

Given year is not a leap Year

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

**ANS:-**

num = 11

*# If given number is greater than 1*

**if** num > 1:

*# Iterate from 2 to n // 2*

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

*# If num is divisible by any number between*

*# 2 and n / 2, it is not prime*

**if** (num % i) == 0:

print(num, "is not a prime number")

**break**

**else**:

print(num, "is a prime number")

**else**:

print(num, "is not a prime number")

**Output**

11 is a prime number

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

**ANS:-**

def is\_prime(n):

if n <= 1:

return False

if n <= 3:

return True

if n % 2 == 0 or n % 3 == 0:

return False

i = 5

while i \* i <= n:

if n % i == 0 or n % (i + 2) == 0:

return False

i += 6

return True

def print\_first\_10000\_primes():

count = 0

num = 2

while count < 10000:

if is\_prime(num):

print(num, end=' ')

count += 1

num += 1

print\_first\_10000\_primes()