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

**ANS:**

user\_ipnut = int(input("Enter a number: "))

if user\_ipnut > 0:

    print("Entered number is positive")

elif user\_ipnut < 0:

    print("Entered number is negative")

else:

    print("Entered number is 0")

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

**ANS:**

user\_ipnut = int(input("Enter a number: "))

if user\_ipnut%2 == 0:

    print("Entered number is Even")

else:

    print("Entered number is Odd")

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

**ANS:**

user\_ipnut = int(input("Enter a year: "))

if (user\_ipnut%400 == 0) or ((user\_ipnut%4 == 0) and (user\_ipnut%100 != 0)):

    print("Entered year is Leap Year")

else:

    print("Entered year is Not a Leap Year")

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

**ANS:**

import math

def isPrime(x:int) -> bool:

    if x <= 1:

        return False

    elif x <= 3:

        return True

    else:

        for i in range(2,math.ceil(math.sqrt(x))+1):

            if x%i == 0:

                return False

        return True

isPrime(79)

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

**ANS:**

import math

def isPrime(x:int) -> bool:

    if x <= 1:

        return False

    elif x <= 3:

        return True

    else:

        for i in range(2,math.ceil(math.sqrt(x))+1):

            if x%i == 0:

                return False

        return True

for i in range(1,10001):

    if isPrime(i):

        print(i)