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

**Ans:- def num(a):**

**if a < 0:**

**print("it's a negative number")**

**elif a == 0:**

**print("it's a zero")**

**else:**

**print("it's a positive number")**

**num(1)**

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

**Ans:- def num(a):**

**if a % 2 == 0:**

**print("it's an even number")**

**else:**

**print("it's an odd number")**

**num(26)**

1. Write a Python Program to Check Leap Year?

**Ans:- def year(a):**

**n = a / 4**

**if n % 2 == 0:**

**print("it's a leap year")**

**else:**

**print("it's not a leap year”)**

**year(2042)**

1. Write a Python Program to Check Prime Number?

**Ans:- def prime(a):**

**result = []**

**for i in range(1, a+1):**

**if a % i == 0:**

**result.append(i)**

**if len(result) > 2:**

**print(f"it's not a prime number and the factorial of this number is: {result}")**

**else:**

**print(f"it's a prime number and the factorial of this number is: {result}")**

**prime(9)**

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

**Ans:- lower = 1**

**upper = 10000**

**print("Prime numbers between", lower, "and", upper, "are:")**

**for num in range(lower, upper + 1):**

**# all prime numbers are greater than 1**

**if num > 1:**

**for i in range(2, num):**

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

**break**

**else:**

**print(num)**