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

**Ans:** num = float (input ("Enter a number: "))  
if num > 0:  
 print ("{0} is a positive number". format(num))  
elif num == 0:  
 print ("{0} is zero". format(num))  
else:  
 print ("{0} is negative number". format(num))

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

**Ans:** num = int (input ("Enter a number: "))  
if (num % 2) == 0:  
 print ("{0} is Even number". format(num))  
else:  
 print ("{0} is Odd number". format(num))

1. Write a Python Program to Check Leap Year?

**Ans:** year = int(input("Enter a year: "))  
if (year % 4) == 0:  
 if (year % 100) == 0:  
 if (year % 400) == 0:  
 print("{0} is a leap year".format(year))  
 else:  
 print("{0} is not a leap year".format(year))  
 else:   
 print("{0} is a leap year".format(year))  
else:  
 print("{0} is not a leap year".format(year))

1. Write a Python Program to Check Prime Number?

**Ans:** num = int(input("Enter a number: "))  
if num > 1:  
 for i in range(2, num):  
 if (num % i) == 0:  
 print(num, "is not a prime number")  
 print(i, "times", num // i, "is", num)  
 break  
 else:  
 print(num, "is a prime number")  
else:  
 print(num, "is not a prime number")

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

**Ans:** lower = int (input ("Enter lower range: "))  
upper = int (input ("Enter upper range: "))  
for num in range (lower, upper + 1):  
 if num > 1:  
 for i in range (2, num):  
 if (num % i) == 0:  
 break  
 else:  
 print(num)