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

```
num = float(input("Enter a number: "))
if num > 0:
  print("Positive number")
elif num == 0:
  print("Zero")
else:
  print("Negative number")
```

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

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

3. Write a Python Program to Check Leap Year?

```
# Python program to check if year is a leap year or not

year = 2000

# To get year (integer input) from the user
# year = int(input("Enter a year: "))

# divided by 100 means century year (ending with 00)
# century year divided by 400 is leap year
if (year % 400 == 0) and (year % 100 == 0):
   print("{0} is a leap year".format(year))

# not divided by 100 means not a century year
# year divided by 4 is a leap year
elif (year % 4 ==0) and (year % 100 != 0):
   print("{0} is a leap year".format(year))

# if not divided by both 400 (century year) and 4 (not century year)
# year is not leap year
else:
   print("{0} is not a leap year".format(year))
```

4. Write a Python Program to Check Prime Number?

```
num = 11

# If given number is greater than 1
if num > 1:

   # Iterate from 2 to n / 2
   for i in range(2, int(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")
```

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

```
def check_prime_no(num):
    if num > 1:
        for i in range(2, num):
            if (num % i) == 0:
                break
        else:
            print(num,end=" ")

lower = int(input("enter lower limit: "))
upper = int(input("enter upper limit: "))

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

for i in range(lower, upper + 1):
    # all prime numbers are greater than 1
    check_prime_no(i)
```