Programming Assignment_3

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

In [2]:

```
def check_number(n):
  if n == 0:
    print ("Zero")
  elif n > 0:
    print (n,"is a postive number")
  else :
    print (n,"is a negative number")

user_no = int(input("Enter a number : "))

check_number(user_no)
```

```
Enter a number : 12
12 is a postive number
```

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

In [4]:

```
gvn_numb = 252
# Apply bitwise & operation for the given number and 1 and store it in another variable
# say evn_or_od.
evn_or_od = gvn_numb & 1
# Pass the above result to the if conditional statement.
if (evn_or_od):
    # If the statement is true, then print "The Number given is an Odd Number".
    print("The Number given is an Odd Number")
else:
    # Else print "The Number given is an Even Number".
    print("The Number given is an Even Number")
```

```
The Number given is an Even Number
```

3. Write a Python Program to Check Leap Year?

In [5]:

```
# 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))
```

```
Enter a year: 2016
2016 is a leap year
```

4. Write a Python Program to Check Prime Number?

In [6]:

```
# To take input from the user
num = int(input("Enter a number: "))

# define a flag variable
flag = False

# prime numbers are greater than 1
if num > 1:
    # check for factors
    for i in range(2, num):
        if (num % i) == 0:
            # if factor is found, set flag to True
            flag = True
            # break out of loop
            break

# check if flag is True
if flag:
    print(num, "is not a prime number")
else:
    print(num, "is a prime number")
```

```
Enter a number: 21
21 is not a prime number
```

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

In [7]:

```
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)
```

```
Prime numbers between 1 and 10000 are:
2
3
5
7
11
13
17
19
23
29
31
37
41
43
47
53
59
61
```

In [ ]:

```

```