# Basic Programming assignment 15

## 1. Please write a program using generator to print the numbers which can be divisible by 5 and 7 between 0 and n in comma separated form while n is input by console ?

Example:

If the following n is given as input to the program: 100

Then, the output of the program should be: 0,35,70

```
In [1]: def showDivisible(in_num):
            for ele in range(0,in_num):
                if (ele%5 == 0) and (ele%7 == 0):
                    yield ele
        for ele in showDivisible(100):
            print(ele,end=' ')
```

```
0 35 70
```

## 2.Please write a program using generator to print the even numbers between 0 and n in comma separated form while n is input by console ?

Example:

If the following n is given as input to the program: 10

Then, the output of the program should be: 0,2,4,6,8,10

```
In [2]: def genEvenNumbers(in_num):
            for ele in range(in_num+1):
                if ele%2 == 0:
                    yield ele

        for ele in genEvenNumbers(10):
            print(ele,end=' ')
```

```
0 2 4 6 8 10
```

## 3.The Fibonacci Sequence is computed based on the following formula below, Please write a program using list comprehension to print the Fibonacci Sequence in comma separated form with a given n input by console ?

f(n)=0 if n=0 f(n)=1 if n=1 f(n)=f(n-1)+f(n-2) if n>1

```
In [3]: def genFibonaci(in_num):
            if in_num == 0:
                return 0
            elif in_num == 1:
                return 1
            else:
                return genFibonaci(in_num-1)+genFibonaci(in_num-2)

        print([genFibonaci(x) for x in range(20)])
```

```
[0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, 987, 1597, 2584, 4181]
```

## 4.Assuming that we have some email addresses in the "username@companyname.com" format, please write program to print the user name of a given email address. Both user names and company names are composed of letters only ?

Example: If the following email address is given as input to the program: john@google.com Then, the output of the program should be: john

```
In [4]: def getUsernames():
            in_string = input('Enter Email Address(es): ')
            out_string = in_string.split('@')
            print(f'Username of {in_string} is {out_string[0]}')

        for i in range(3):
            getUsernames()
```

```
Enter Email Address(es): john@google.com
Username of john@google.com is john
Enter Email Address(es): vipuljain@nvtpower.com
Username of vipuljain@nvtpower.com is vipuljain
Enter Email Address(es): vipuljain@ineuron.in
Username of vipuljain@ineuron.in is vipuljain
```

5.Define a class named Shape and its subclass Square. The Square class has an init function which takes a length as argument. Both classes have a area function which can print the area of the shape where Shape's area is 0 by default.

In [5]:
```python
class Shape:
    def area(self):
        return 0

class Square(Shape):
    def __init__(self, length):
        self.length = length
    def area(self):
        return self.length*self.length

square = Square(50)
print(square.area())
```

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