Question 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

Question 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

Question 3:

The Fibonacci Sequence is computed based on the following formula:

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

Please write a program using list comprehension to print the Fibonacci Sequence in comma separated form with a given n input by console.

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

7

Then, the output of the program should be:

0,1,1,2,3,5,8,13

Question 4:

Assuming that we have some email addresses in the "[username@companyname.com](mailto: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](mailto:john@google.com)

Then, the output of the program should be:

john

Question 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.

Solutions :

**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 [21]:

**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 [9]:

**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): amanovishnu@gmail.com

Username of amanovishnu@gmail.com is amanovishnu

Enter Email Address(es): support.query@ineuron.ai

Username of support.query@ineuron.ai is support.query

Enter Email Address(es): manovishnu@outlook.com

Username of manovishnu@outlook.com is manovishnu

**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 [11]:

**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())

2500