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

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=' ')

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

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=' ')

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

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)])

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

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()

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.

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())