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.

**Solution: 1**

class gen:

def generators(n):

for i in range(0, n):

if((i%5==0) and (i%7==0)):

yield i

else:

pass

n = int(input("Enter a number "))

g = gen.generators(n)

g\_list = []

for val in g:

g\_list.append(val)

result = ','.join(str(item) for item in g\_list)

print(result)

**Solution: 2**

class gen:

def generatores(n):

for i in range(0, n):

if(i%2==0):

yield i

else:

pass

n = int(input("Enter a number "))

g1 = gen.generatores(n)

g\_list1 = []

for val in g1:

g\_list1.append(val)

res = ','.join(str(i) for i in g\_list1 )

print(res)

**Solution: 3**

fib\_sequence = []

fib\_sequence.append(0)

fib\_sequence.append(1)

n = int(input("Enter a number "))

[fib\_sequence.append(fib\_sequence[i-1]+fib\_sequence[i-2]) for i in range(2, n+1)]

print(fib\_sequence)

**Solution: 4**

text= input("Enter a valid email address which contains first name and the company name in the address ")

a = text.split("@")

print( a[0])

**Solution: 5**

class shape:

def area(self):

print("Area of the shape is 0 by default ")

class square(shape):

def \_\_init\_\_(self, length):

self.length = length

def area(self):

area\_of\_sq = self.length\*\*2

print(area\_of\_sq)

obj\_shape = shape()

obj\_square = square(10)

obj\_square.area()

obj\_shape.area()