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 divide\_by\_five\_seven(num):

ll\_new=[0]

for i in range(1, num):

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

ll\_new.append(i)

return ll\_new

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 even():

num = int(input('Enter the no'))

ll2\_new=[0]

for i in range(1, num+1):

if i % 2 ==0:

ll2\_new.append(i)

return ll2\_new

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 recur\_fibo(n):

if n <= 1:

return n

else:

return(recur\_fibo(n-1) + recur\_fibo(n-2))

nterms = int(input('Enter the no: '))

# check if the number of terms is valid

if nterms <= 0:

print("Plese enter a positive integer")

else:

print("Fibonacci sequence:")

for i in range(nterms):

print(recur\_fibo(i))

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

input('Enter the mail:' ).split('@')[0]

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):

print('area is 0')

class Square(Shape):

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

self.lenght = lengh

def area(self):

print('area is 0')