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 NumGenerator(n):

for i in range(n+1):

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

yield i

n=int(raw\_input())

values = []

for i in NumGenerator(n):

values.append(str(i))

print ",".join(values)

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 EvenGenerator(n):

i=0

while i<=n:

if i%2==0:

yield i

i+=1

n=int(raw\_input())

values = []

for i in EvenGenerator(n):

values.append(str(i))

print ",".join(values)

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 f(n):

if n == 0: return 0

elif n == 1: return 1

else: return f(n-1)+f(n-2)

n=int(raw\_input())

values = [str(f(x)) for x in range(0, n+1)]

print ",".join(values)

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

import re

emailAddress = raw\_input()

pat2 = "(\w+)@(\w+)\.(com)"

r2 = re.match(pat2,emailAddress)

print r2.group(2)

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(object):

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

pass

def area(self):

return 0

class Square(Shape):

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

Shape.\_\_init\_\_(self)

self.length = l

def area(self):

return self.length\*self.length

aSquare= Square(3)

print aSquare.area()