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

Ans1

def divisible\_by\_5\_and\_7(n):

for i in range(n+1):

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

yield i

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

result = divisible\_by\_5\_and\_7(n)

print(",".join(str(x) for x in result))

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

Ans2

def even\_numbers(n):

for i in range(n+1):

if i % 2 == 0:

yield i

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

result = even\_numbers(n)

print(",".join(str(x) for x in result))

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&gt;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

Ans3

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

fib = [0, 1]

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

print(",".join(str(x) for x in fib))

Question 4:

Assuming that we have some email addresses in the &quot;username@companyname.com&quot; 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

Ans4

email = input("Enter an email address: ")

username = email.split("@")[0]

print(username)

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.

Ans5

class Shape:

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

pass

def area(self):

print("Area of Shape: 0")

class Square(Shape):

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

self.length = length

def area(self):

area = self.length \*\* 2

print(f"Area of Square: {area}")

s = Shape()

s.area()

sq = Square(5)

sq.area()