**Python Programming Basic Assignment-15**

**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

In [75]:

**class** generator:

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

self**.**num**=**int(input('Enter the number range: '))

**def** div(self):

**for** i **in** range(self**.**num):

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

**yield** i

object**=**generator()

Enter the number range: 100

In [76]:

a**=**object**.**div()

In [77]:

l**=**[str(i) **for** i **in** a]

print(','**.**join(l))

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

In [78]:

**class** generator:

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

self**.**num**=**int(input('Enter the number range: '))

**def** even(self):

**for** i **in** range(self**.**num):

**if** i**%2**==0:

**yield** i

In [83]:

obj**=**generator()

Enter the number range: 10

In [84]:

n**=**obj**.**even()

In [85]:

l**=**[str(i) **for** i **in** n]

print(','**.**join(l))

0,2,4,6,8

**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

In [4]:

**def** fibo():

x**=**0

y**=**1

l**=**[x **for** i **in** range(7)]

**for** i **in** range(20):

print(x,end**=**' ')

x,y**=**y,x**+**y

In [5]:

fibo()

0 1 1 2 3 5 8 13 21 34 55 89 144 233 377 610 987 1597 2584 4181

**Question 4:**

Assuming that we have some email addresses in the "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

Then, the output of the program should be: john

In [88]:

email**=**input('Enter the emial id: ')

**if** '@' **in** email:

l**=**email**.**split('@')

print(l[0])

**else**:

print('Wrong entry')

Enter the emial id: john@google.com

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.

In [101]:

**class** Shape:

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

self**.**length**=**length\_shape

**def** area(self):

print(f'Area is {self**.**length**\***self**.**length}')

**class** Square(Shape):

**def** \_\_init\_\_(self,**\***args):

super(Square,self)**.**\_\_init\_\_(**\***args)

self**.**length**=**length\_square**=**0

**def** area(self):

print(f'Area is {self**.**length**\***self**.**length}')

In [102]:

ob\_shape**=**Shape(10)

ob\_square**=**Square(20)

In [103]:

ob\_shape**.**area()

Area is 100

In [104]:

ob\_square**.**area()

Area is 0

In [ ]: