# Assignment 15

#### 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 ?

***Answer:***

**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** showDivisible(in\_num):  
 **for** ele **in** range(0,in\_num):  
 **if** (ele%5 == 0) **and** (ele%7 == 0):  
 **yield** ele  
**for** ele **in** showDivisible(100):  
 print(ele,end=' ')

0 35 70

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 ?

***Answer:***

**Example:**  
If the following n is given as input to the program: 10  
Then, the output of the program should be: 0,2,4,6,8,1

def genEvenNumbers(in\_num):  
 for ele in range(in\_num+1):  
 if ele%2 == 0:  
 yield ele  
  
for ele in genEvenNumbers(10):  
 print(ele,end=' ')

0 2 4 6 8 10

#### 3.The Fibonacci Sequence is computed based on the following formula below, Please write a program using list comprehension to print the Fibonacci Sequence in comma separated form with a given n input by console ?

***Answer:***

f(n)=0 if n=0 f(n)=1 if n=1 f(n)=f(n-1)+f(n-2) if n>1

def genFibonaci(in\_num):  
 if in\_num == 0:  
 return 0  
 elif in\_num == 1:  
 return 1  
 else:  
 return genFibonaci(in\_num-1)+genFibonaci(in\_num-2)  
   
print([genFibonaci(x) for x in range(20)])

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

#### 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 ?

***Answer:***

**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

def getUsernames():  
 in\_string = input('Enter Email Address(es): ')  
 out\_string = in\_string.split('@')  
 print(f'Username of {in\_string} is {out\_string[0]}')  
  
for i in range(3):  
 getUsernames()

Enter Email Address(es): skynews@gmail.com  
Username of skynews@gmail.com is skynews  
Enter Email Address(es): support.sky@gmail.com  
Username of support.sky@gmail.com is support.sky  
Enter Email Address(es): westside@outlook.com  
Username of westside@outlook.com is westside

#### 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.

***Answer:***

class Shape:  
 def area(self):  
 return 0  
  
class Square(Shape):  
 def \_\_init\_\_(self, length):  
 self.length = length  
 def area(self):  
 return self.length\*self.length  
  
square = Square(50)  
print(square.area())

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