

Assignment 15 Solutions

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 [1]: 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 commaseparated 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 [2]: 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 Please write a program using list comprehension to print the Fibonacci Sequence in commaseparated form with a given n input by console ?

f(n)=0 if n=0

f(n)=1 if n=1

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

```
In [3]: def genFibonacci(in_num):
        if in_num == 0:
            return 0
        elif in_num == 1:
            return 1
        else:
            return genFibonacci(in_num-1)+genFibonacci(in_num-2)

        print([genFibonacci(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" 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 [4]: 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): hrushikeshdurgude76497@gmail.com
Username of hrushikeshdurgude76497@gmail.com is hrushikeshdurgude76497
Enter Email Address(es): support.query@ineuron.ai
Username of support.query@ineuron.ai is support.query
Enter Email Address(es): hrushikeshdurgude1508@outlook.com is hrushikesh
Username of hrushikeshdurgude1508@outlook.com is hrushikesh is hrushikeshdurgude1508
```

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 [5]: 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())
```

2500

In []:

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