

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 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 [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 below, Please write a program using list comprehension to print the Fibonacci Sequence in comma separated 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 [21]: 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 [9]: def getUsersNames():
    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):
        getUsersNames()
```

```
Enter Email Address(es): amanovishnu@gmail.com
Username of amanovishnu@gmail.com is amanovishnu
Enter Email Address(es): support.query@ineuron.ai
Username of support.query@ineuron.ai is support.query
Enter Email Address(es): manovishnu@outlook.com
Username of manovishnu@outlook.com is manovishnu
```

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 [11]: 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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