

python_basic_programming_15

May 20, 2023

```
[ ]: 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
```

```
[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
```

```
[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
```

```
[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

```
[4]: 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): shyamsundar51297@gmail.com
Username of shyamsundar51297@gmail.com is shyamsundar51297
Enter Email Address(es): shyam51297@gmail.com
Username of shyam51297@gmail.com is shyam51297
Enter Email Address(es): karmakarshyamsundar1997@gmail.com
Username of karmakarshyamsundar1997@gmail.com is karmakarshyamsundar1997

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.

```
[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