

# Python\_basic\_programming\_15

In [ ]:

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 [2]:

```
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

In [ ]:

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 [3]:

```
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

In [ ]:

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 ?  
$$f(n)=0 \text{ if } n=0 \quad f(n)=1 \text{ if } n=1 \quad f(n)=f(n-1)+f(n-2) \text{ if } n>1$$

In [4]:

```
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]
```

In [ ]:

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 [5]:

```
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): susmitaadhikary2000s@gmail.com  
Username of susmitaadhikary2000s@gmail.com is susmitaadhikary2000s  
Enter Email Address(es): susmita2000s@gmail.c0m  
Username of susmita2000s@gmail.c0m is susmita2000s  
Enter Email Address(es): adhikarysusmita2000j@gmail.com  
Username of adhikarysusmita2000j@gmail.com is adhikarysusmita2000j
```

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 [6]:

```
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