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.

In [1]:
```
def gen_func(n):
    for i in range(n+1):
        if i % 5 == 0 and i % 7 == 0:
            yield i

n = int(input("Enter the value of n: "))
result = gen_func(n)

print("Numbers divisible by 5 and 7 between 0 and", n, "are:", end=' ')
for num in result:
    print(num, end=', ')
```

```
Enter the value of n: 34
Numbers divisible by 5 and 7 between 0 and 34 are: 0,
```

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.

In [2]:
```
def even_numbers(n):
    for i in range(n+1):
        if i % 2 == 0:
            yield i

n = int(input("Enter a number: "))
even_nums = even_numbers(n)
print(*even_nums, sep=',')
```

```
Enter a number: 65
0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64
```

3. Please write a program using list comprehension to print the Fibonacci Sequence in comma separated form with a given n input by console.

In [3]:
```
n = int(input("Enter the value of n: "))

# List comprehension to generate Fibonacci sequence up to n terms
fib_sequence = [0, 1] + [fib_sequence[i-1] + fib_sequence[i-2] for i in range(2, n)]

# Print the sequence in comma-separated form
print(", ".join(str(num) for num in fib_sequence))
```

```
Enter the value of n: 78
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
~\AppData\Local\Temp\ipykernel_15912\3513622337.py in <module>
      2
      3 # List comprehension to generate Fibonacci sequence up to n terms
----> 4 fib_sequence = [0, 1] + [fib_sequence[i-1] + fib_sequence[i-2] for i in range(2, n)]
      5
      6 # Print the sequence in comma-separated form

~\AppData\Local\Temp\ipykernel_15912\3513622337.py in <listcomp>(.0)
      2
      3 # List comprehension to generate Fibonacci sequence up to n terms
----> 4 fib_sequence = [0, 1] + [fib_sequence[i-1] + fib_sequence[i-2] for i in range(2, n)]
      5
      6 # Print the sequence in comma-separated form

NameError: name 'fib_sequence' is not defined
```

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

In [4]:
```
email = "example_user@example_company.com"
```

```
email = "example_user@example_company.com"
# replace the above email with the actual email address you want to extract the user name from

# split the email address into two parts, using "@" as the separator
parts = email.split("@")

# the first part is the user name
user_name = parts[0]

print(user_name)
```

```
example_user
```

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 ** 2
```

In [ ]:
```

```