Question 1

Research on whether addition, subtraction, multiplication, division, floor division, and modulo operations be performed on complex numbers. Based on your study, implement a Python program to demonstrate these operations.

In [8]:
```
a=3+6j
b=6+3j
c=(a+b)/2*(b**2)
print(a+b)
print(a*b)
print(a/b)
print(c)
```

```
(9+9j)
45j
(0.8+0.6j)
(-40.5+283.5j)
```

Floor division and modulo operations cannot be performed on complex numbers

Question 2

Research on range() functions and its parameters. Create a markdown cell and write in your own words (no copy-paste from google please) what you understand about it. Implement a small program of your choice on the same.

Answer

Range is actually a class,but we call it as a function due to the paranthesis.It is generally used in Loops to iterate over statements.

the parameters of the Range are range(Start,stop,step)

In [9]:
```
list1=[1,2,3,4,5,6,7,8,9]
list(range(0,9,3))
```

Out[9]:
```
[0, 3, 6]
```

Question 3:

Consider two numbers. Perform their subtraction and if the result of subtraction is greater than 25, print their multiplication result else print their division result.

In [10]:
```
a=100
b=25
c=a-b
if c>25:
    print(a*b)
else:
    print(a/b)
```

```
2500
```

Question 4:

Consider a list of 10 elements of integer values. If the number in the list is divisible by 2, print the result as "square of that number minus 2".

In [11]:
```
l=[1,2,3,4,5,6]
for i in range(0, len(l)):
    if l[i]%2== 0:
        print(i**2-2)
```

```
-1
7
23
```

Question 5:

Consider a list of 10 elements. Print all the elements in the list which are greater than 7 when that number is divided by 2

In [12]:
```
l=[18,32,33,36,49,60]
for i in range(0, len(l)):
    if l[i]%2== 0:
        if l[i]>7:
            print(i)
```

```
0
1
3
5
```