In [1]:
```
#Declare a complex number and store it in a variable.Check the type and print

a=3+9j
print(type(a))
print(id(a))
```

```
<class 'complex'>
140333383978256
```

In [5]:
```
#Arithmetic Operations on complex number

a=3+6j
b=7+9j

print(a+b)
print(a-b)
print(a*b)
print(a/b)
#print(a//b)
#print(a%b)
print(a**b)
```

```
(10+15j)
(-4-3j)
(-33+69j)
(0.576923076923077+0.1153846153846154j)
(27.84632466574666-7.191040958174678j)
```

In [8]:
```
#print(a>b)
#equality operations
a=9+3j
b=8+5j
print(a==b)
print(a!=b)
```

```
False
True
```

In [15]:
```
#logical operations

a=6+4j
b=0+0j


print(a and b)
print(b or b)

b=7+8j
a=0+0j
print(a and b)
print(a or b)
print(a and a)

print( not b)
print(not a)
```

```
0j
0j
0j
(7+8j)
0j
False
True
```

In [16]:
```
#identity operations

a=10+39j
b=10+39j

print(a is b)
print(a is not b)
```

```
False
True
```

In [27]:
```
#membership operations

print(9j in[1,2,4,6,'manoj',0+9j])
print(10+20j in (5,7,2,"man"))
print(5+8j not in {10+9j,5+8j,7,8})
print(2+6j in {1:2+6j,2+6j:4+9j,2+8j:'k'})
print(13 in range(10,20,2))
```

```
True
False
False
True
False
```

In [ ]: