COMPLEX DATA TYPE

In [2]:
```
z = 3 + 4j
```

In [4]:
```
print(z.real)
print(z.imag)
```

```
3.0
4.0
```

In [5]:
```
a = 3 + 4j
b = 1 + 2j
```

In [6]:
```
print(a + b) # addition
```

```
(4+6j)
```

In [7]:
```
print(a - b) # substration
```

```
(2+2j)
```

In [8]:
```
print(a * b) # multiplication
```

```
(-5+10j)
```

In [9]:
```
print(a / b) # division
```

```
(2.2-0.4j)
```

In [10]:
```
z = 3 + 4j
```

In [11]:
```
print(abs(z)) # 5.0 (Magnitude)
```

```
5.0
```

In [20]:
```
print(z.conj()) # (3-4j) (complex conjugate)
```

```
---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
Cell In[20], line 1
----> 1 print(z.conj())

AttributeError: 'complex' object has no attribute 'conj'
```

In [14]:
```
import cmath
```

In [15]:
```
z = 1 + 1j
```

In [16]:
```
print(cmath.phase(z))
```

```
0.7853981633974483
```

In [17]:
```
print(cmath.polar(z))
```

```
(1.4142135623730951, 0.7853981633974483)
```

In [18]:
```
print(cmath.sqrt(z))
```

```
(1.09868411346781+0.4550898605622273j)
```

In [ ]:
```

```