In [ ]:
```
Numbers:
    1- Integers
    2- Float
    3- Complex
```

In [2]:
```
a = 6
```

In [3]:
```
type(a)
```

Out[3]:
```
int
```

In [4]:
```
b = 5.0
print(type(b))
```

```
<class 'float'>
```

In [8]:
```
c= 6 + 4j
```

In [6]:
```
c.real
```

Out[6]:
```
6.0
```

In [9]:
```
c.imag
```

Out[9]:
```
4.0
```

In [11]:
```
print(isinstance(a,complex))
```

```
False
```

In [12]:
```
if isinstance(a,int):
    print("I Am the integers variable")
else:
    print("I Am not the integers variable")
```

```
I Am the integers variable
```

Convert an integer to a binary

In [ ]:
```
a, b ,c.....z  -- 65,66,
A, B....Z -- 91
```

In [13]:
```
a1 = 5
print(bin(5))
```

```
0b101
```

In [22]:
```
# BInart to Integer

# b1 = bin(5)
# b1.int()
```

In [23]:
```
# COnvert integer to hexa

hex(a1)
```

Out[23]:
```
'0x5'
```

In [24]:
```
# COnvert integer to oct

oct(a1)
```

Out[24]:
```
'0o5'
```

In [25]:
```
print(0b101)
```

```
5
```

In [27]:
```
b2 = bin(5)
b2
```

Out[27]:
```
'0b101'
```

In [29]:
```
print(0b101)
```

```
5
```

In [31]:
```
print(0b101)
```

```
5
```

In [32]:
```
print(0x5)
```

```
5
```

In [34]:
```
z1 =  bin(10)
z1
```

Out[34]:
```
'0b1010'
```

In [35]:
```
z2 =  bin(20)
z2
```

Out[35]: '0b10100'

In [36]:
```
print(0b1010 + 0b10100)
```

```
30
```

type Conversion

In [37]:
```
1 + 3.0
```

Out[37]: 4.0

In [38]:
```
3.0 + 1
```

Out[38]: 4.0

In [39]:
```
int(6.3)
```

Out[39]: 6

In [40]:
```
int(-2.7)
```

Out[40]: -2

In [41]:
```
float(9)
```

Out[41]: 9.0

In [42]:
```
(1.1+2.2)
```

Out[42]: 3.3000000000000003

In [43]:
```
(1.1+2.2) == 3.3
```

Out[43]: False

In [44]:
```
import fractions
```

In [46]:
```
#0.25 = 1/4

fractions.Fraction(0.25)
```

Out[46]: Fraction(1, 4)

In [49]:
```
fractions.Fraction(1.5)
```

Out[49]:
```
Fraction(3, 2)
```

In [50]:
```
import math
```

In [51]:
```
math.pi
```

Out[51]:
```
3.141592653589793
```

In [52]:
```
math.exp(10)
```

Out[52]:
```
22026.465794806718
```

In [53]:
```
math.log10(1000)
```

Out[53]:
```
3.0
```

In [55]:
```
math.log10(10)
```

Out[55]:
```
1.0
```

In [56]:
```
math.factorial(5)
```

Out[56]:
```
120
```

In [ ]:
```
5 x 4 x 3 x 2 x 1
```

In [57]:
```
import random
```

In [62]:
```
random.random()
```

Out[62]:
```
0.665641659595308
```

In [67]:
```
random.randrange(10,100)
```

Out[67]:
```
86
```

In [68]:
```
x = ['a','b','c','d','e']
```

In [72]:
```
random.choice(x)
```

Out[72]:
```
'c'
```

In [75]:
```
random.shuffle(x)
```

In [76]:
```
x
```

Out[76]:
```
['e', 'd', 'c', 'b', 'a']
```

In [ ]:
```

```