In [1]:
```
num=100
```

type

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

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

- integer
- float
- string
- boolean
- complex
- list
- tuple
- set
- dictionary

Integer

- binary
  - binary includes only 0 and 1
  - bi means=2
  - representation is : 0b111,0B101
  - wrong representation is : 0b123

In [ ]:
```
-  octa
    - octa means 8
    - includes 0 to 7 {0,1,2,3,4,5,6,7}
    - representation is : 0o123
    - wrong
```

ox123

In [2]:
```
0x123
```

Out[2]:
```
291
```

In [ ]:
```
4      2       1
0      0
0      0
0      1
0      1
0      0
```

```
1      0
1      1
1      1
1      0
1      0
```

string

string

- string

name1='python'

In [3]:
```
name2 = "python"
```

In [4]:
```
name2
```

Out[4]:
```
'python'
```

In [5]:
```
name3='nareshit'
name3
```

Out[5]:
```
'nareshit'
```

In [6]:
```
type(name3)
```

Out[6]:
```
str
```

integer

In [7]:
```
'i like "python" '
```

Out[7]:
```
'i like "python" '
```

" i 'like' python'

In [9]:
```
' i like "python" '
```

Out[9]:
```
' i like "python" '
```

In [10]:
```
name3=" i like 'python' "
name3
```

Out[10]:
```
" i like 'python' "
```

In [11]:
```
str1=""" hello world
         how are you
         how do you do
         what are the thing"""
```

In [12]:
```
str1
```

Out[12]: ' hello world\n how are you\n how do you do\n what are the thing'

In [13]:
```
print(str1)
```

```
hello world
        how are you
        how do you do
        what are the thing
```

In [14]:
```
type(str1)
```

Out[14]: str

- octa
  - octa means 8
  - octa includes 0 to 7{0,1,2,3,4,5,6,7}
  - representation is: 0o234 , 0o765
  - wrong representation is : 0o786,0o987

In [15]:
```
0o345
```

Out[15]: 229

In [16]:
```
0o243
```

Out[16]: 163

- Hexa
  - hexa means 16 reprensted by X
  - hexa includes 0 to 15
  - that is 0 1 2 3 4 5 6 7 8 9 a b c d e f
  - where a=10, b=11, c=12, d=13, e=14, f=15
  - representation is: 0x346,0xabc
  - wrong representation is: 0xcvb,0x9mh

In [17]:
```
0x123
```

Out[17]: 291

In [18]:
```
0xa5c
```

Out[18]: 2652

In [19]:
```
0xcba
```

Out[19]: 3258

2^2 2^1 2^0 4 2 1

0 0 0 = 0 0 0 1 =1 0 1 0 =2 0 1 1 =3 1 0 0 1 0 1 1 1 0 1 1 1

float

In [21]:
```
number_float=123.67
type(number_float)
```

Out[21]: float

In [22]:
```
number_float
```

Out[22]: 123.67

In [23]:
```
1e1
```

Out[23]: 10.0

In [24]:
```
1e2,1e3,1e4,1e5,1e6
```

Out[24]: (100.0, 1000.0, 10000.0, 100000.0, 1000000.0)

In [1]:
```
1e+2,1e+3
```

Out[1]: (100.0, 1000.0)

In [2]:
```
1e+13
```

Out[2]: 10000000000000.0

In [5]:
```
1e-4
```

Out[5]: 0.0001

In [6]:
```
1e-13
```

Out[6]: 1e-13

In [7]:
```
1e-7
```

Out[7]: 1e-07

BOOLEAN

- either True or False
- it is green color so remeber as keyword

In [9]:
```
ans=True
```

In [10]:
```
ans
```

Out[10]: True

In [11]:
```
type(ans)
```

Out[11]: bool

In [12]:
```
ans=True
ans=False
```

In [13]:
```
ans
```

Out[13]:
```
False
```

In [14]:
```
ans=False
ans=40
ans
```

Out[14]:
```
40
```

In [15]:
```
type(ans)
```

Out[15]:
```
int
```

string

- name is used in quotes "" or' '
- we can use ' ' or "" in string
- for highlight the words in a sentence
- write the total sentence in ' ' or "" double quotes as our wish

In [16]:
```
name='raju'
name
```

Out[16]:
```
'raju'
```

In [17]:
```
name1="python"
```

In [18]:
```
name1
```

Out[18]:
```
'python'
```

In [19]:
```
str=" l 'like' python"
str
```

Out[19]:
```
" l 'like' python"
```

In [20]:
```
' i like "python"'
```

Out[20]:
```
' i like "python"'
```

In [27]:
```
str1=""" how are you
          how do you do
          how old are you
          hello world"""
```

In [28]:
```
str1
```

Out[28]:
```
' how are you\n          how do you do\n          how old are you\n          he
llo world'
```

In [29]:
```
print(str1)
```

```
how are you
         how do you do
         how old are you
         hello world
```

In [30]:
```
str1
```

Out[30]:
```
' how are you\n          how do you do\n          how old are you\n          he
llo world'
```

- black color=variable
- green color=keyword
- red color =string

usually triple quotes string known as **DOC STRING**

""" """ only used to coinve information it is not used for coding it is know as DOC STRING

In [ ]:
```

```