PYTHON VARIABLE DECLARATION 15TH OCT 2025

In [2]:
```
false=50
false
```

Out[2]:
```
50
```

In [3]:
```
False=5o
False
```

```
  Cell In[3], line 1
    False=5o
          ^
SyntaxError: invalid decimal literal
```

In [4]:
```
#syntex error bcz False is a keyword
```

python data type

int(i) float(f) bool string complex

In [5]:
```
i=5
i
```

Out[5]:
```
5
```

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

Out[6]:
```
int
```

In [8]:
```
f=50.96
f
```

Out[8]:
```
50.96
```

In [9]:
```
type(f)
```

Out[9]:
```
float
```

In [10]:
```
print(i)
print(f)
```

```
5
50.96
```

In [11]:
```
i+f
```

Out[11]:
```
55.96
```

In [12]:
```
f-i
```

Out[12]: 45.96

In [13]:
```
i*f
```

Out[13]: 254.8

bool

In [15]:
```
True
```

Out[15]: True

In [16]:
```
False
```

Out[16]: False

In [18]:
```
None
```

only True,False,None these three keyword start with capital latter

In [20]:
```
True+True
```

Out[20]: 2

In [21]:
```
True+False
```

Out[21]: 1

In [22]:
```
False+False
```

Out[22]: 0

In [23]:
```
False+True
```

Out[23]: 1

In [24]:
```
True*True
```

Out[24]: 1

In [25]:
```
True*False
```

Out[25]: 0

In [26]:
```
True/True
```

Out[26]: 1.0

In [27]:
```
True//True
```

Out[27]: 1

In [28]:
```
s="hello"
s
```

Out[28]: 'hello'

In [30]:
```
s1='hello'
s1
```

Out[30]: 'hello'

In [31]:
```
s2='''hello'''
s2
```

Out[31]: 'hello'

In [32]:
```
s3='''hello
          team'''
s3
```

Out[32]: 'hello\n   team'

here \n reffers to the next line

COMPLEX

a+bj ,where a=real part,b= imaginary part,j=root -1

In [34]:
```
d=10+20j
d
```

Out[34]: (10+20j)

In [35]:
```
d.real
```

Out[35]: 10.0

In [36]:
```
d.imag
```

Out[36]: 20.0

In [38]:
```
a=10+20j
b=20+40j
a,b
```

Out[38]: ((10+20j), (20+40j))

In [39]:
```
print(a+b)
```

(30+60j)

In [40]:
```
print(b-a)
```

```
(10+20j)
```

In [41]:
```
print(a*b)
```

```
(-600+800j)
```

python variable and python data type complited

python type casting== convert one data type in to other data type

In [1]:
```
int(2.4)
```

Out[1]: 2

In [2]:
```
int(2.4,3.4)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[2], line 1
----> 1 int(2.4,3.4)

TypeError: 'float' object cannot be interpreted as an integer
```

In [3]:
```
int(true)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[3], line 1
----> 1 int(true)

NameError: name 'true' is not defined
```

In [4]:
```
int(True)
```

Out[4]: 1

In [5]:
```
int(False)
```

Out[5]: 0

In [6]:
```
int(True,False)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[6], line 1
----> 1 int(True,False)

TypeError: int() can't convert non-string with explicit base
```

In [7]:
```
int('10')
```

Out[7]: 10

In [8]:
```
int('ten')
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
Cell In[8], line 1
----> 1 int('ten')

ValueError: invalid literal for int() with base 10: 'ten'
```

In [9]:
```
int(2+5j)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[9], line 1
----> 1 int(2+5j)

TypeError: int() argument must be a string, a bytes-like object or a real number,
not 'complex'
```

#note flote to int,bool to int,number string to int is valid

text string to int,complex to int are invalid/ not possible|also user can not define 2 argument at a time

In [11]:
```
#all other data type to float
```

In [12]:
```
float(19)
```

Out[12]: 19.0

In [13]:
```
float(True)
```

Out[13]: 1.0

In [14]:
```
float(False)
```

Out[14]: 0.0

In [15]:
```
float(1,2)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[15], line 1
----> 1 float(1,2)

TypeError: float expected at most 1 argument, got 2
```

In [16]:
```
float('ten')
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
Cell In[16], line 1
----> 1 float('ten')

ValueError: could not convert string to float: 'ten'
```

In [17]:
```
float(10+20j)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[17], line 1
----> 1 float(10+20j)

TypeError: float() argument must be a string or a real number, not 'complex'
```

int to float,bool to float,number string to float possible/valid

In [ ]:
```
text string to float,complex to float are invalid/ not possible|also user can no
```

In [18]:
```
str(4)
```

Out[18]:
```
'4'
```

In [19]:
```
str(4.2)
```

Out[19]:
```
'4.2'
```

In [23]:
```
str()
```

Out[23]:
```
''
```

In [22]:
```
str(3+5j)
```

Out[22]:
```
'(3+5j)'
```

also user can not define 2 argument at a time in string to other

all other data type to bool non zero argument if you define then by defult it will detact as True

In [24]:
```
bool(10)
```

Out[24]:
```
True
```

In [25]:
```
bool(10.5)
```

Out[25]:
```
True
```

In [26]:
```
bool('arun')
```

Out[26]:
```
True
```

In [27]:
```
bool(0)
```

Out[27]:
```
False
```

In [28]:
```
bool()
```

Out[28]:
```
False
```

In [29]:
```
bool(10+20j)
```

Out[29]:
```
True
```

all other data type to complex

In [30]:
```
complex(10)
```

Out[30]: (10+0j)

In [31]:
```
complex(10,20)
```

Out[31]: (10+20j)

In [32]:
```
complex()
```

Out[32]: 0j

In [33]:
```
complex('arun')
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
Cell In[33], line 1
----> 1 complex('arun')

ValueError: complex() arg is a malformed string
```

In [34]:
```
complex('10')
```

Out[34]: (10+0j)

In [35]:
```
complex('10','20')
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[35], line 1
----> 1 complex('10','20')

TypeError: complex() can't take second arg if first is a string
```

In [36]:
```
complex(10,20,30)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[36], line 1
----> 1 complex(10,20,30)

TypeError: complex() takes at most 2 arguments (3 given)
```

note in cmplex only two data type is allow,and only 1 number string is allow as parameter

In [37]:
```
complex(True)
```

Out[37]: (1+0j)

In [39]:
```
complex(False)
```

Out[39]: 0j

In [40]:
```
complex(True,False)
```

Out[40]: (1+0j)

TYPE CASTING COMPLETED

In [ ]: