**Integer data tyepe:-**

we can use int data type to reprsent whole number(integral values).

**ex:-**

>>> a = 10

>>> type(a)

<class 'int'>

>>> b = -9000

>>> type(b)

<class 'int'>

>>>

**base conversion:-**

1.decimal form (**float form**)

2.Binary form

3.Octal form

4.Hexa Deciaml form.

decimal form (**float form**) (base-10):-

------------------------

It is the default system in python

we can convert int to decimal by using **float()**:-

The allowed digits are: **0 to 9** and . symbaol

**ex:-**

>>> a = 100

>>> b = float(a)

>>> print(b)

100.0

>>> type(a)

<class 'int'>

>>> type(b)

<class 'float'>

**2.Binary form(base-2):-**

--------------

The allowed digits are :- 0 and 1

we are converting int to binary form by using:- bin()

Literal value should be prefixed with 0b and 0B.

**ex:-**

>>> a = 10

>>> b = bin(a)

>>> b

'0b1010'

>>> a = 9000

>>> b = bin(a)

>>> b

'0b10001100101000'

**3.Octal Form(base-8):-**

The allowed digits are 0 to 7

we are converting int to octal form by using:- oct()

Literal value should be prefixed with 0o and 0O.

ex:-

>>> a = 50

>>> b = oct(a)

>>> b

'0o62'

>>>

**4.Hexa Deciaml Form(Base-16):-**

The allowed digits are :- 0 to 9, a-f(both upper and lower)

we are converting int to hexal form by using:- hex()

Lietral value should be prefixed with:- 0x and 0X

**ex:-**

>>> a = 100

>>> b = hex(a)

>>> b

'0x64'

>>>

>>> c = 600000000

>>> d = hex(c)

>>> d

'0x23c34600'

**flaot Data type:-** **float()**

we can use flaot data type to represent flaoting point values(**decimal values**).

**ex:-**

a = 100.90

b = -899.89

c = 70007899.7897878978

>>> a = 900.6556

>>> type(a)

<class 'float'>

**Note:-** we can also reprsent flaoting point value by using exponential form(**scientific notation**)

a = 199918768138678136.761368943164893618681396478

exponetial form:- we can use 'e' for exponetial form

**'e':- instead**

>>> f = 1000.200e3

>>> f

1000200.0

>>> f = 1.2e3

>>> f

1200.0

Note:-The main advantage of exponential form is we can reprsent big values in less memory and we can assign a big floating in a small format.

Note:- We acn reprsent int values in decial,binary,ocatl,hexal form,but we can not convert float value in this all the format.

complex data type:-

A complex number is of the form

a + bj

(Real) (imaginary)

Real + imag = complex number

a and b contain integer and floating point values.

ex:-

3+5j

10-5.9j

0.5+0.9j

-78-89j

addition complex no:-

real part is adding another real part and img part is adding onther img part.

>>> a = 3 + 8j

>>> b = 10 + 10j

>>>

>>> a+b

(13+18j)