PYTHON

Data Types in Python :

Python has 5 Data types of which two are independent and the remaining are derived or dependent data types .

The data types in Python:

- Numbers
- Strings
- Lists
- Tuples
- Dictionaries

The first two Data Types are independent and the later are Dependent / Derived Data types.

Note : In Python Boolean (True , False) are not considered as Data Types but they still exist as status flags.

Numbers: Number data type stores numeric values only.

Python supports four numeric type:

Int: This takes only the integer values.

Eg: 10,-43

Long: This can take integer values size greater than 10 and octal and hexadecimal values.

Eg:56356754L , DEFGHF1453F

Float: This take only value with point (.) .

Eg: 123.43,-12.64

Complex: This will take complex number if form A+iB.

Where A=Real value and B=imaginary value

Eg: 3+4j, 6+3j,4j

Number Type Conversion: A number in python at some time is to be converted to another to satisfy the requirement according to the operators. To perform conversion python provide in-built functions for converting.

int(a): It convert the value of a into a plain integer.

long(a): It convert the value of a into a long integer.

Float(a): It convert the value of a into a floating –point number .

Complex(x): It convert the value of a into a complex number with a taken as the real part and imaginary part as 0.

Complex(a, b): It convert the value of a and b into complex number where a will be real part and b will be the imaginary part of complex number.

Python internally has in-built mathematical functions that can be performed on integer values.

Mathematical Functions: The functions used for integers are following:

ceil(a): It will return the smallest integer greater or equal to a.

fabs(a): It will return absolute value of a.

factorial(a): It will return factorial value of a value.

Floor(a): It will return largest integer less than or equal to x.

Fmod(a,b): It will return the remainder when a is divided by b.

Sprt(a): It will return the square root of a.

exp(a): It will return exponential value of a

power(a,b): It will return value of a with the power of b. a**b.

pi: It will return the pi value which is pi=3.14

These are the functions which are frequently used. There are still different functions like trigonometric, random numbers that are used in python which will be discussed in future.