

Basic Data-types

Topics covered

- int
- long
- float
- complex
- boolean

Three built-in data types in python to represent numbers:

1. int
2. float
3. complex

Integer

```
In [1]: import sys
integer_number = 52
print (integer_number)
print (type(integer_number))
```

```
52
<class 'int'>
```

Long

```
In [2]: import sys
print (sys.maxsize)
# Long_number = 9223372036854775808
print (type(sys.maxsize))
```

```
9223372036854775807
<class 'int'>
```

Float

```
In [3]: float_number = 56.78
print (type(float_number))
```

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

Defining Complex number

- complex(real,imag)
- j represent imaginary part
- both real and imaginary part are float numbers

```
In [4]: cmp_number = 3 + 4j          # j represent imaginary part of complex number
z = complex(3,4)                  # create a complex number with real and imaginary part
print ("Real Number:",cmp_number.real,"\tType: ", type(cmp_number.real))
print ("Imaginary Number:",cmp_number.imag,"\tType: ", type(cmp_number.imag))
print ("Complex Number:",cmp_number,"\tType: ",type(cmp_number))
print ("Complex Number:",z,"\tType: ",type(z))
print ("Conjugate of complex number:", cmp_number.conjugate())    # return conjugate of complex number
```

```
Real Number: 3.0          Type:  <class 'float'>
Imaginary Number: 4.0     Type:  <class 'float'>
Complex Number: (3+4j)    Type:  <class 'complex'>
Complex Number: (3+4j)    Type:  <class 'complex'>
Conjugate of complex number: (3-4j)
```

Boolean

- True
- False
- and
- or
- not

```
In [5]: t = True
f = False

b = not(t)

print (b)
print ((t and f) or (not f and t))
```

```
False
True
```