# Python Numbers

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## Python Numbers

There are three numeric types in Python:

- `int`
- `float`
- `complex`

Variables of numeric types are created when you assign a value to them:

### Example

Get your own Python Server

```
x = 1    # int
y = 2.8  # float
z = 1j   # complex
```

To verify the type of any object in Python, use the `type()` function:

### Example

```
print(type(x))
print(type(y))
print(type(z))
```

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## Int

Int, or integer, is a whole number, positive or negative, without decimals, of unlimited length.

### Example

Integers:

```
x = 1
y = 35656222554887711
z = -3255522

print(type(x))
print(type(y))
print(type(z))
```

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## Example

Floats:

```
x = 1.10
y = 1.0
z = -35.59

print(type(x))
print(type(y))
print(type(z))
```

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Float can also be scientific numbers with an "e" to indicate the power of 10.

## Example

Floats:

```
x = 35e3
y = 12E4
z = -87.7e100

print(type(x))
print(type(y))
print(type(z))
```

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# Complex

Complex numbers are written with a "j" as the imaginary part:

## Example

Complex:

```
x = 3+5j
y = 5j
z = -5j

print(type(x))
print(type(y))
print(type(z))
```

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# Type Conversion

You can convert from one type to another with the `int()`, `float()`, and `complex()` methods:

```
x = 1    # int
y = 2.8  # float
z = 1j   # complex

#convert from int to float:
a = float(x)

#convert from float to int:
b = int(y)

#convert from int to complex:
c = complex(x)

print(a)
print(b)
print(c)

print(type(a))
print(type(b))
print(type(c))
```

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**Note:** You cannot convert complex numbers into another number type.

## Random Number

Python does not have a `random()` function to make a random number, but Python has a built-in module called `random` that can be used to make random numbers:

### Example

Import the random module, and display a random number between 1 and 9:

```
import random

print(random.randrange(1, 10))
```

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In our Random Module Reference you will learn more about the Random module.

## Test Yourself With Exercises

### Exercise:

Insert the correct syntax to convert x into a floating point number.

```
x = 5
```

Submit Answer »

Start the Exercise

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