

# 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

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

# Int

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

Integers:

```
x = 1
```

```
y = 35656222554887711
```

```
z = -3255522
```

# Float

Float, or "floating point number" is a number, positive or negative, containing one or more decimals.

Floats:

```
x = 1.10
```

```
y = 1.0
```

```
z = -35.59
```

### Note:

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

Floats:

```
x = 35e3
```

```
y = 12E4
```

```
z = -87.7e100
```

## Complex

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

Complex:

```
x = 3+5j
```

```
y = 5j
```

```
z = -5j
```

# Type Conversion

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

Convert from one type to another:

```
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)
```

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