

# Python Casting

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## Specify a Variable Type

There may be times when you want to specify a type on to a variable. This can be done with casting. Python is an object-orientated language, and as such it uses classes to define data types, including its primitive types.

Casting in python is therefore done using constructor functions:

- `int()` - constructs an integer number from an integer literal, a float literal (by removing all decimals), or a string literal (providing the string represents a whole number)
- `float()` - constructs a float number from an integer literal, a float literal or a string literal (providing the string represents a float or an integer)
- `str()` - constructs a string from a wide variety of data types, including strings, integer literals and float literals

## Example

Integers:

```
x = int(1)    # x will be 1
```

```
y = int(2.8) # y will be 2
```

```
z = int("3") # z will be 3
```

## Example

Floats:

```
x = float(1)    # x will be 1.0
```

```
y = float(2.8)  # y will be 2.8
```

```
z = float("3") # z will be 3.0
```

```
w = float("4.2") # w will be 4.2
```

## Example

```
x = str("s1") # x will be 's1'
```

```
y = str(2) # y will be '2'
```

```
z = str(3.0) # z will be '3.0'Strings:
```