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The **str** and **repr** strings are often the same, but not always

The repr String for an Object	
	5

The repr S	tring for	an Ob	ject
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>>> 12e12

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```
>>> 12e12
12000000000000000000
>>> print(repr(12e12))
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```
>>> repr(min)
'<built-in function min>'
```

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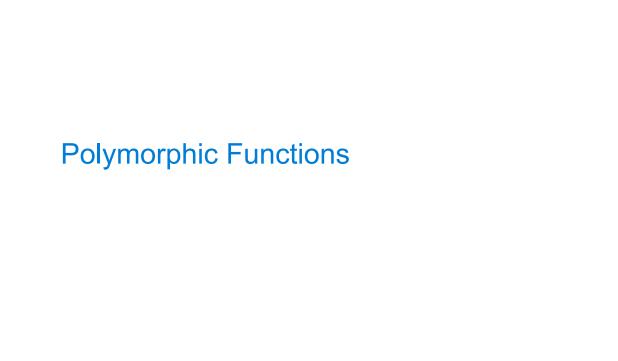
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(Demo)



Polymorphic Functions	

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>>> half.__repr__()
'Fraction(1, 2)'
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Implementing repr and str	
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def repr(x):
    return x.__repr__(x)

def repr(x):
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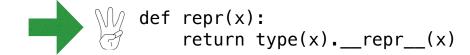
def repr(x):
    return type(x).__repr__(x)

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def repr(x):
 return super(x).__repr__()

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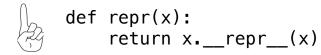
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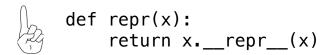


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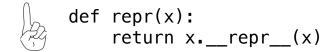


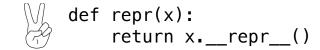
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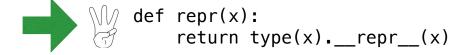
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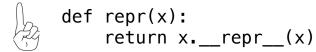


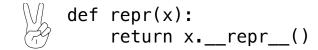
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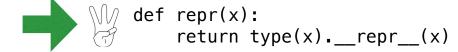
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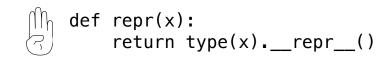
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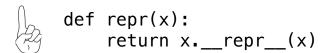
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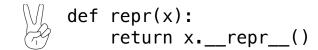
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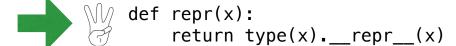
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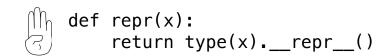
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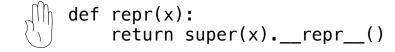
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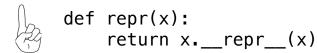


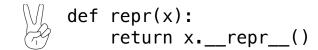
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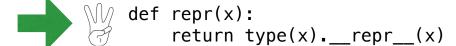
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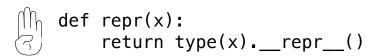
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def repr(x):
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(Demo)

Interfaces

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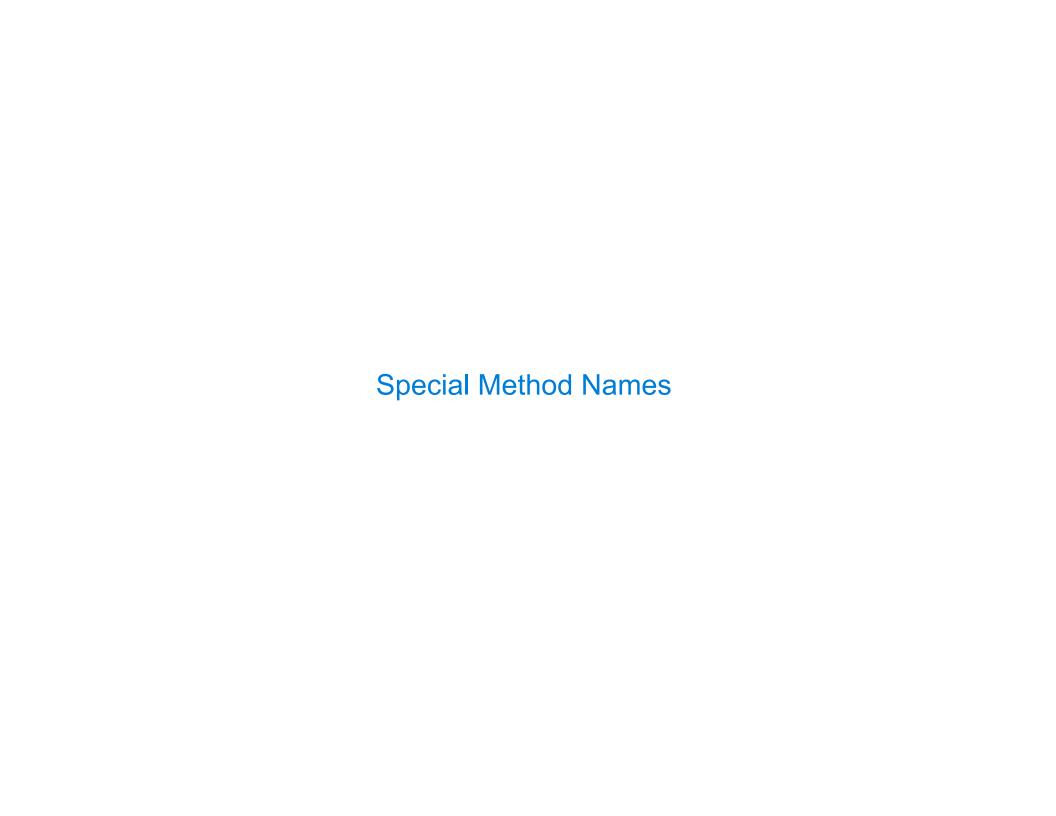
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(Demo)



Special Method Names in Python	 -
	12

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Ratio(1, 2)

>>> Ratio(1, 3).__add__(Ratio(1, 6))
Ratio(1, 2)
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http://getpython3.com/diveintopython3/special-method-names.html

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(Demo)

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Ratio(4, 3)

>>> from math import pi
>>> Ratio(1, 3) + pi
3.4749259869231266
```

A polymorphic function might take two or more arguments of different types

Type Dispatching: Inspect the type of an argument in order to select behavior

Type Coercion: Convert one value to match the type of another

```
>>> Ratio(1, 3) + 1
Ratio(4, 3)

>>> 1 + Ratio(1, 3)
Ratio(4, 3)

>>> from math import pi
>>> Ratio(1, 3) + pi
3.4749259869231266

(Demo)
```