[320] Special Methods

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Special Methods

Special Methods

__init__ is a special method, with non-standard behavior

```python
class Dog:
    def __init__(dog, name, age):
        print("created a dog")
        dog.name = name
        dog.age = age

    def speak(dog, mult):
        print(dog.name + ": " + "bark!"*mult)

fido = Dog("Fido", 9)


fido.speak(5)
```

Special Methods

There are MANY special method names:
https://docs.python.org/3/reference/datamodel.html#special-method-names

We'll learn a few:

```
__str__, __repr__, _repr_html_
```

control how an object looks when we print it or see it in Out[N]

generate HTML to create more visual representations of objects in Jupyter. Like tables for DataFrames

```
__eq__, __lt__
```

```
__len__, __getitem__
```

```
__enter__, __exit__
```

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```
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```
define how **==** behaves for two different objects

```
__len__, __getitem__
```
define how a list of objects should be sorted

```
c = (a==b) # type of c?
```

```
__enter__, __exit__
```

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`__eq__, __lt__`

`__len__, __getitem__`

build our own sequences that we
index, slice, and loop over:

```
val = obj[idx]
vals = obj[3:7]
for x in obj:
    print(x)
```

what goes
in brackets?

`__enter__, __exit__`

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```

```
__eq__, __lt__
```

```
__len__, __getitem__
```

context managers

```
__enter__, __exit__
```

```
with open("file.txt") as f:
    data = f.read()
# automatically close
```

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```
example 1: dogs

```
__len__, __getitem__

__enter__, __exit__
```

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`__len__, __getitem__`   **example 2:** range(...)

`__enter__, __exit__`

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```

example 3: plots inside a "with" block will have extra large font

Demos