Prison Snake

A broad dive into the object structure of Python and the functionality behind PyJail solutions

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- This is crazy! The solution seems arbitrary but there is logic behind each attribute chosen in this solution. We will discover why solutions like this work, and why this functionality exists.

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- Contains implementations of builtin functions, mostly written in C for speed

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- These are the building blocks of a PyJail solution, and the architecture of the language itself. Having a deep understanding of these attributes will always guide you to the solution.

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- `method-wrapper` is a type used by CPython to denote a function that is compiled with C. This makes sense for a base component of Python such as Object.
- Conclusion? We can't use Object on its own to help us call other functions

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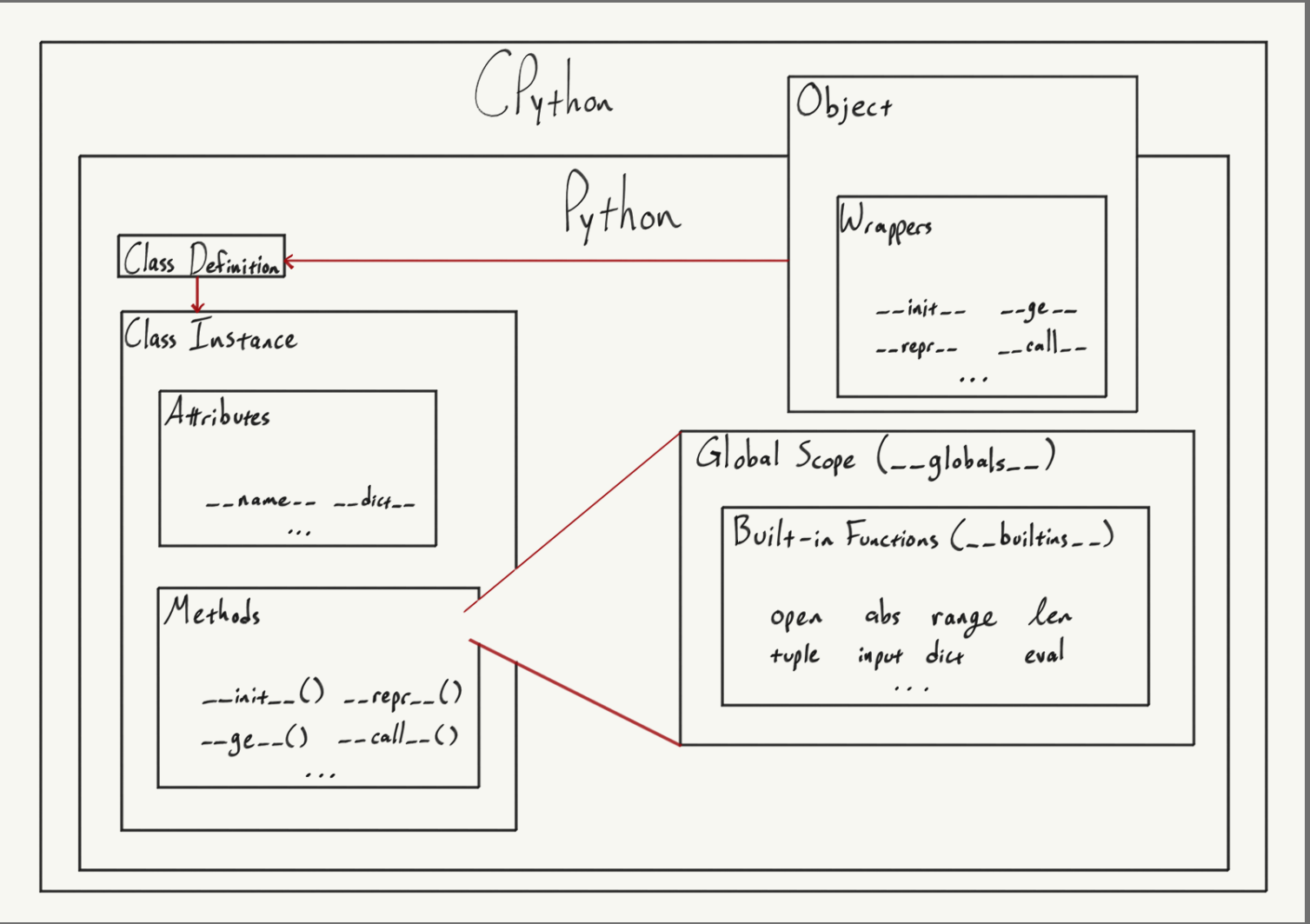
  - They also include other useful things like `__import__()` which are good for PyJails with other restrictions
  - In my installation of Python 3.10, there are 544 classes with Python-implemented methods (so they have `__globals__` as a derived attribute)

Graphical Review



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- `__subclasses__()[134].__init__.__globals__`: Accesses the 134th subclass of the Object class (in my installation, this is the Printer class), uses its Python-defined `__init__` function to access the global scope

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- `__subclasses__()[134].__init__.__globals__`: Accesses the 134th subclass of the Object class (in my installation, this is the Printer class), uses its Python-defined `__init__` function to access the global scope
- `["__builtins__"]["open"]("./key", "r").read()`: Accesses Python's list of builtin function headers, calls the open function on a file called "key" with the read permissions, and reads its contents

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- Debugging OOP Junk

Sources

- Your Guide to the CPython Source Code
- CPython Source Code
- Common Python Structures
- Python Data Model
- Python's Innards

Challenge

https://gist.github.com/CharlesAverill/e7fef5a6e078f14b7ac7b3d318e3e24f