

```
....:     return a ** 2
....:
```

Note that to create a docstring for our function, we simply placed a string literal in the first line. Because docstrings are usually multiple lines, by convention we used Python's triple-quote notation for multiline strings.

Now we'll use the `?` mark to find this docstring:

```
In [7]: square?
Type:      function
String form: <function square at 0x103713cb0>
Definition: square(a)
Docstring:  Return the square of a.
```

This quick access to documentation via docstrings is one reason you should get in the habit of always adding such inline documentation to the code you write!

Accessing Source Code with ??

Because the Python language is so easily readable, you can usually gain another level of insight by reading the source code of the object you're curious about. IPython provides a shortcut to the source code with the double question mark (`??`):

```
In [8]: square??
Type:      function
String form: <function square at 0x103713cb0>
Definition: square(a)
Source:
def square(a):
    "Return the square of a"
    return a ** 2
```

For simple functions like this, the double question mark can give quick insight into the under-the-hood details.

If you play with this much, you'll notice that sometimes the `??` suffix doesn't display any source code: this is generally because the object in question is not implemented in Python, but in C or some other compiled extension language. If this is the case, the `??` suffix gives the same output as the `?` suffix. You'll find this particularly with many of Python's built-in objects and types, for example `len` from above:

```
In [9]: len??
Type:      builtin_function_or_method
String form: <built-in function len>
Namespace: Python builtin
Docstring:
len(object) -> integer
```

```
Return the number of items of a sequence or mapping.
```

Using `?` and/or `??` gives a powerful and quick interface for finding information about what any Python function or module does.

Exploring Modules with Tab Completion

IPython's other useful interface is the use of the Tab key for autocompletion and exploration of the contents of objects, modules, and namespaces. In the examples that follow, we'll use `<TAB>` to indicate when the Tab key should be pressed.

Tab completion of object contents

Every Python object has various attributes and methods associated with it. Like with the `help` function discussed before, Python has a built-in `dir` function that returns a list of these, but the tab-completion interface is much easier to use in practice. To see a list of all available attributes of an object, you can type the name of the object followed by a period (`.`) character and the Tab key:

```
In [10]: L.<TAB>
L.append  L.copy    L.extend  L.insert  L.remove  L.sort
L.clear   L.count   L.index   L.pop     L.reverse
```

To narrow down the list, you can type the first character or several characters of the name, and the Tab key will find the matching attributes and methods:

```
In [10]: L.c<TAB>
L.clear  L.copy   L.count
```

```
In [10]: L.co<TAB>
L.copy   L.count
```

If there is only a single option, pressing the Tab key will complete the line for you. For example, the following will instantly be replaced with `L.count`:

```
In [10]: L.cou<TAB>
```

Though Python has no strictly enforced distinction between public/external attributes and private/internal attributes, by convention a preceding underscore is used to denote such methods. For clarity, these private methods and special methods are omitted from the list by default, but it's possible to list them by explicitly typing the underscore:

```
In [10]: L._<TAB>
L.__add__      L.__gt__      L.__reduce__
L.__class__    L.__hash__    L.__reduce_ex__
```

For brevity, we've only shown the first couple lines of the output. Most of these are Python's special double-underscore methods (often nicknamed "dunder" methods).