

Python Programming

Docstring

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Documentation

- We should document our code (such as Functions and Classes)
 - Easier for others to **code review** our work
 - Easier for others to use our or enhance your code
 - Easier for you to remember your code. You yourself may revisit after a long time!
- How: **comments** and **docstrings**
- Tips
 - Use function and variables names that are very meaningful
 - Avoid complex functions. Separate to several sub-functions (**single concern**)
 - Function with many arguments? Think twice!

Docstrings

- Python docstrings are the **string** literals that appear right **after the definition** of a function, method, class, or module
- In your company: They may use a specific docstring format.

```
8 def our_sum(a, b):
9     """
10     Take 2 items than can be summed (e.g. numbers or strings)
11
12     :param a: a number or a string
13     :param b: a number or a string
14     :return: the addition of 2 numbers.
15
16     Examples:
17     | our_sum(2, 3) ==> 5
18     | our_sum('Hello', 'world') ==> Helloworld
19     """
20     return a + b
```

Built-in Functions docstring

- Print it:
 - `print(print.__doc__)`
 - `print(len.__doc__)`
- Click control and press the function name in the code

```
builtins.py x
77
78 * def print(self, *args, sep=' ', end='\n', file=None): # known special case of print
79     """
80     ... print(value, ..., sep=' ', end='\n', file=sys.stdout, flush=False)
81     ...
82     ... Prints the values to a stream, or to sys.stdout by default.
83     ... Optional keyword arguments:
84     ... file: a file-like object (stream); defaults to the current sys.stdout.
85     ... sep: string inserted between values, default a space.
86     ... end: string appended after the last value, default a newline.
87     ... flush: whether to forcibly flush the stream.
88     """
```

Docstring before Code

- Sometimes it is even wise to document your function **before** coding it
- Your mind is clear about:
 - What is the input
 - What is the output
 - How many concerns are involved in the function
 - Building code pipeline and overall flow
 - Etc

“Acquire knowledge and impart it to the people.”

“Seek knowledge from the Cradle to the Grave.”