**Docstrings**

Docstring, or documentation strings, are valuable pieces of documentation that explain the functionality of any function or module in your code. Ideally, each of your functions should always have a docstring.

Docstrings are surrounded by triple quotes. The first line of the docstring is a brief explanation of the function's purpose.

**One-line docstring**

def population\_density(population, land\_area):

"""Calculate the population density of an area."""

return population / land\_area

If you think that the function is complicated enough to warrant a longer description, you can add a more thorough paragraph after the one-line summary.

**Multi-line docstring**

def population\_density(population, land\_area):

"""Calculate the population density of an area.

Args:

population: int. The population of the area

land\_area: int or float. This function is unit-agnostic, if you pass in values in terms of square km or square miles the function will return a density in those units.

Returns:

population\_density: population/land\_area. The population density of a

particular area.

"""

return population / land\_area

The next element of a docstring is an explanation of the function's arguments. Here, you list the arguments, state their purpose, and state what types the arguments should be. Finally, it is common to provide some description of the output of the function. Every piece of the docstring is optional; however, doc strings are a part of good coding practice.

**Resources**

* [PEP 257 - Docstring Conventions](https://www.python.org/dev/peps/pep-0257/)
* [NumPy Docstring Guide](https://numpydoc.readthedocs.io/en/latest/format.html)