Python """docstrings"""

Python docstrings are enclosed within triple double quotes ("""Docstring"""), placed directly below the function or class, and used to explain a specific segment of code.

```
def sum(a, b):
    """Returns the sum of two numbers."""
    return a + b
```

To retrieve a docstring use

```
sum.__doc__
```

output:

```
' Returns the sum of two numbers. '
```

What's in a docstring?

1. **Description:** As a bare minimum you should have a one-line summary of the function's purpose.

```
def sum(a, b):
    """Returns the sum of two numbers."""
    return a + b
```

2. **Parameters:** A blank line after the summary parameters, followed by its expected type in parentheses and a brief description.

```
def sum(a, b):
    """Returns the sum of two numbers.

    parameters:
    a (int): The first integer
    b (int): The second integer
    """
    return a + b
```

3. **Returns:** Describe the type and purpose of the return value.

```
def sum(a, b):
    """Returns the sum of two numbers.

    parameters:
    a (int): The first integer
    b (int): The second integer

    Returns:
    int: Returns the sum of a and b
    """
    return a + b
```

4. **Raises:** List any exceptions that can be raised.

```
def sum(a, b):
    """Returns the sum of two numbers.

    parameters:
    a (int): The first integer
    b (int): The second integer

    Returns:
    int: Returns the sum of a and b

    Raises:
    TypeError: If either a or b is a string.
    """
    return a + b
```

5. **Example:** A good practice is to add an example of how to use the function or class.

```
def sum(a, b):
    """Returns the sum of two numbers.

    parameters:
    a (int): The first integer
    b (int): The second integer

    Returns:
    int: Returns the sum of a and b

    Raises:
    TypeError: If either a or b is a string.

    Examples:
    >>> sum(10, 5)
    15
    """
    return a + b
```

Class docstring: A class docstring follows similar formatting, describing attributes and methods.

```
class Person:
    """Declaring information about a person

    Attributes:
    name (str): Name of individual
    age  (int): Age of individual

    Methods:
    person() Prints name and age.
    """

    def __init__(self, name, age):
        """Constructs attributes"""
        self.name = name
        self.age = age

    def person(self):
        """Prints name and age."""
        print(f'{self.name} Age: {self.age}')
```

Conventions

“A universal convention supplies all of maintainability, clarity, consistency, and a foundation for good programming habits too. What it doesn’t do is insist that you follow it against your will. That’s Python!”

—Tim Peters on comp.lang.python, 2001-06-16

```
# Tim Peters is the author of the Python
# easter egg you find by running"
>>>import this
```

More on docstring conventions:

https://peps.python.org/pep-0257/