# Cheatsheet: Python Coding Practices and Packaging Concepts

**Estimated time needed:** 5 minutes

| Package/Method | Description | Code Example |
|---|---|---|
| **Packaging** | To create a package, the folder structure is as follows:<br>1. **Project folder → Package name → init.py**, **module_1.py**, **module_2.py**, and so on.<br>2. In the **init.py** file, add code to reference the modules in the package. | **module1.py**<br>`def function_1(arg):`<br>`  return <operation output>`<br>**init.py**:<br>`from . import function_1`<br>`def function_1(a, b):`<br>`  if a > b:`<br>`  c = c + 5`<br>`  else:`<br>`  c = c - 3`<br>`  return c`<br>…<br>`c = function_1(a, b)` |
| **Python Style Guide** | • Four spaces for indentation<br>• Use blank lines to separate functions and classes<br>• Use spaces around operators and after commas<br>• Add larger blocks of code inside functions<br>• Name functions and files using lowercase with underscores<br>• Name classes using CamelCase<br>• Name constants in capital letters with underscores separating words | **Constant Definition example**<br>`MAX_FILE_UPLOAD_SIZE` |
| **Static Code Analysis** | Use Static code analysis method to evaluate your code against a predefined style and standard without executing the code.<br>For example, use Pylint to perform static code analysis. | **Shell code:**<br>`pylint code.py` |
| **Unit Testing** | Unit testing is a method to validate if units of code are operating as designed.<br>During code development, each unit is tested. The unit is tested in a continuous integration/continuous delivery test server environment. | `import unittest`<br>`from mypackage.mymodule import my_function`<br>`class TestMyFunction(unittest.TestCase):`<br>`  def test_my_function(self):` |

| Package/Method | Description | Code Example |
| --- | --- | --- |
| | You can use different test functions to build unit tests and review the unit test output to determine if the test passed or failed. | `result = my_function(<args>)`<br><br>`self.asserEqual(result, <response>)`<br><br>`unittest.main()` |

# Author(s)

Abhishek Gagneja

## Other Contributor(s)

Andrew Pfeiffer, Sina Nazeri