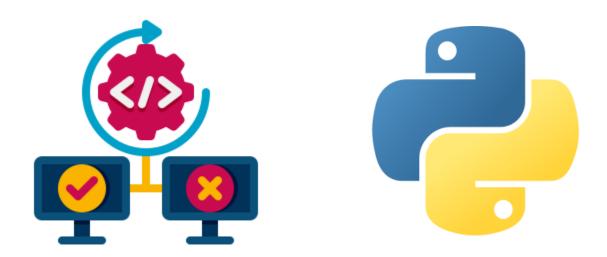# Learning unit testing in Python

What is Unit Testing?

Unit testing is a type of software testing that focuses on testing individual units or components of a program. These individual units can be functions, methods, or classes. The goal of unit testing is to isolate and test each part of the program to ensure that it performs as intended and meets the specifications.

What is the Purpose of Unit Testing?

The purpose of unit testing is to catch defects early in the development cycle. It helps to identify bugs and issues in the individual units of the program before they become major problems in the overall system. By testing each unit separately, developers can ensure that their code is working as intended, and that any changes they make to the code do not break existing functionality.

Why should you create Unit Tests?

Creating unit tests is important for several reasons. Firstly, it helps to ensure the quality of the code. By writing tests that check the functionality of each unit, developers can be sure that their code is working as expected. Secondly, it helps to reduce the risk of introducing bugs and issues into the codebase. By catching issues early on, developers can fix them before they become more serious problems. Finally, it helps to make the codebase more maintainable, as it allows developers to quickly identify and fix issues as they arise.

How do Unit Tests improve your code?

Unit tests can improve your code in several ways. Firstly, they help to identify and remove any bugs or issues in the code. By testing each unit in isolation, developers can be sure that their code is working as expected, and that any issues are caught early. Secondly, unit tests help to make your code more modular and flexible. By breaking your code down into smaller units, you can test each part independently and ensure that changes to one unit do not affect other parts of the program. Finally, unit tests can help to make your code more maintainable. By having a comprehensive suite of tests, you can quickly identify and fix any issues that arise, and ensure that your code remains stable and reliable over time.

My first time writing Unit Tests

By following an amazing guide and explanation by ArjanCodes on YouTube I've written my first Unit Tests in Python. This can be found in this GitHub Repo: https://github.com/marnikmaes/learningUnitTesting

Conclusion

Unit testing is an important part of software development, and can help to improve the quality, reliability, and maintainability of your code. By testing each unit in isolation, you can identify and fix bugs early on, and ensure that your code is working as intended. Whether you are a beginner or an experienced developer, unit testing is an essential skill to have, and can help you to create better, more robust software.