

Testing in Software Development

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May 4, 2023

Diffusion models

Why?

Why test? Seriously.

Automated vs. Manual

Code accumulates.
Tests must accumulate too.

Collaborative vs. Individual

You are not the only person in the world.

Your friends love you, but they do not have time to read all of your code and docs.

Reality

If it is not tested, then it is broken.

If it is not tested, then it does not exist.

If it is documented, then the documentation lies.

If you fix a bug without adding a test, you did not fix the bug.

Levels of testing

Unit testing
Integration testing
Functional testing
Regression testing
And others

Unit testing

Test units of code, typically at the method or function level.

Integration Testing

Test the interactions between different components of a system to ensure they work together.

Functional Testing

Test that code functions according to specifications. Functional tests verify that code meets standards and implements documented behavior.

Regression Testing

Test that behavior of code does not change when code changes.

References I