Assignment-1

Create an infographic illustrating the Test-Driven Development (TDD) process. Highlight steps like writing tests before code, benefits such as bug reduction, and how it fosters software reliability.

**TDD:**

Test Driven Development starts with writing the test for each function(or)feature.

Initially the test are failed, because the test are developed even before the development.

Then write the code , and modify the code to pass the test case.

Write tests

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Write code

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Run unit tests 🡪 Test failed

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Test passed 🡨 Refractoring

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Deploy code

1)Write Tests:-

Developer need to create unit tests for the functionality of the features. These tests need to be passed so that the function executes correctly. Most of the time these tests would fail because the tests are written by assumptions based on functionality previous to the code development. Based on the tests only the functionality must be modified to pass the tests.

2)Code Correction or bug reduction:-

If the tests fail, the developer need to make changes in the code to pass the tests. It will reduce bug in the code as the code is based on tests.

3)Refractor the code:-

Once the tests run successfully, change the code to reuduce redundancy and make optimized code to reduce the execution time and enhance the performance. Ensure that the refraction of the code does not change the behaviour of the functionality.

Benefits of using TDD:

Writing the tests before coding reduces debugging time.

Reduces bugs in the early stages.

Improve the quality of the software.

Less defects

Improve the quality of the software.

Meets the customer requirements

We can develop more reliable software

Helps in creation of Optimized code

Adding and testing new functionalities in the next stages of development becomes easier