

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)

Test-Driven Development (TDD) is a software development process where you write tests before writing the actual code.

It aims to improve code quality and ensure that the software works as intended.

TDD Cycle Steps

Visual: A circular flowchart to represent the iterative nature of TDD.

Write a Test:

Description: Write a test for the next bit of functionality you want to add.

Visual: Icon of a checklist or test document.

Run the Test:

Description: Run the test to ensure it fails (since the functionality isn't implemented yet).

Visual: Icon of a failing test (red cross or red X).

Write Code:

Description: Write the minimum amount of code necessary to make the test pass.

Visual: Icon of a coding window or keyboard.

Run Tests Again:

Description: Run all tests to check if the new code passes and doesn't break existing functionality.

Visual: Icon of passing test (green checkmark or green circle).

Refactor:

Description: Refactor the code to improve its structure without changing its behavior.

Visual: Icon of a wrench or gear indicating refactoring.

Repeat:

Description: Repeat the cycle for the next piece of functionality.

Visual: Circular arrow to show repetition.

Why Use TDD?Bug Reduction:

Description: Fewer bugs in the code because tests catch errors early.

Icon: Bug with a cross-out symbol.

Improved Code Quality:

Description: Encourages clean, well-designed, and maintainable code.

Icon: Quality badge or star.

Faster Debugging:

Description: Easier and faster to identify the source of bugs when they occur.

Icon: Stopwatch or clock.

Fosters Software Reliability:

Description: Continuous testing ensures software reliability and consistency.

Icon: Shield or lock symbol.

Documentation:

Description: Tests serve as documentation for the codebase.

Icon: Document or book.

Here's a mock-up of how your infographic might look:

What is TDD?**TDD Cycle Steps**

Write a Test (Checklist Icon)

Run the Test (Failing Test Icon)

Write Code (Coding Window Icon)

Run Tests Again (Passing Test Icon)

Refactor (Wrench Icon)

Repeat (Circular Arrow Icon)

Why Use TDD?

Bug Reduction (Bug Icon)

Improved Code Quality (Quality Badge Icon)

Faster Debugging (Stopwatch Icon)

Fosters Software Reliability (Shield Icon)

Documentation (Document Icon)

Get Started with TDD

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