Assignment 2

Report on the game development process using TDD.

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Introduction:

For this project, I set out to create a "Guess the Number" game using Python, and my goal was to ensure the game's reliability by using automated unit testing. The game involves players guessing a random four-digit number, receiving feedback, and keeping track of their attempts. The testing tool I employed is called 'pytest'.

Process:

Building Step by Step with TDD:

When crafting the game, I followed a method called Test-Driven Development (TDD). This means I first wrote tests that describe how the game should work before writing the actual game code. This approach kept me on track and helped catch potential issues early on.

Automated Checks with 'pytest':

I made use of a testing tool called 'pytest' to automate the process of checking my game. It's like a helpful assistant that runs the tests for me. Here's how I applied this to the game requirements:

Requirement: Simulating User Input

I used a technique to mimic player input during tests. This way, I could see how the game reacts to different situations without actually playing it.

Requirement: Correct Guess in First Attempt

I wrote a test to ensure that when a player guesses the number correctly on their first try, the game responds as expected.

Requirement: Incorrect Guess in First Attempt

I also tested what happens when a player guesses incorrectly on their first try. This ensured that the game handles this situation properly.

Requirement: Quit in First Attempt

I made sure the game behaves correctly when a player decides to quit right from the beginning.

Using Pictures to Show the Journey:

A screen shot of a computer

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Conclusion:

Creating this game with TDD and automated testing taught me a lot about building reliable software. TDD showed me the importance of planning ahead with tests, while automated testing using 'pytest' gave me confidence that the game works as intended.

**Find my game's code on GitHub**: https://github.com/nepalmahan/softwareeng

What I Learned:

How to develop step by step with tests to catch mistakes early.

The value of automated testing and how it simplifies checking the game's behavior.

The significance of simulating player actions during testing.