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Technique

While taking CSC 411, we have both adopted a test driven approach to software development. In short, this is to write the tests before the implementation. For this two dimensional array assignment, we created several tests covering a variety of valid solutions, invalid solutions, and edge cases. For example, we wrote test cases where pixel values were greater than 9 as well as some that had invalid dimensions. In doing this, we wrote code focused on passing the tests which made the code more concise. To adopt this approach, you can follow several steps. First, write a variety of test cases. When writing the steps, ensure you understand what the feature is supposed to do, including its inputs, outputs, and how it should behave under different conditions. Second, you write just enough code so that the test passes. This encourages simplicity and focus on functionality. Finally, the next step is to refactor the code. This means improving the structure, readability, and perhaps efficiency of your code without changing its behavior. There are plenty of reasons to adopt this approach. Arguably the most important is an increase in efficiency. By focusing on test coverage and the behavior of your code from the start, you're more likely to catch bugs early.