CSSE376 – Lab5 – TDD – Caio Balthazar – CM 1478

1) **In your own words, explain the process of TDD.**

TDD is the process of writing tests cases before the actual production code. At first, you write the test and expect it to fail. Then, and only then, you write the code that makes the test pass, no more. After this, you go back to write the next test, and it should also fail. Continue to the next implementation code until the test passes. This goes until the functionality is complete. It is the main loop of TDD.

2) **TDD proponents claim that it benefits software development. The advantages that are often associated with TDD are that (a) it increases the confidence software developers have in their code, and (b) it improves overall code quality. Do you agree with these claims? Justify your answer.**

Yes. This methodology enforces the programmer into thinking about the inputs and outputs before thinking of the code. This helps to build the proper mindset before implementation tasks and usually leads to better design, simpler code. Once you have thought about the possibilities and potential problems during the test writing, you are less likely to make errors. In addition, you get almost 100% code coverage with automated tests, since it's a consequence of the TDD programming loop, and you can be sure that no changes are breaking the existing code. These tests are also still going to serve future uses.

3) **Based on your experience with this lab, please specify advantages and disadvantages of TDD.**

Advantages:

- Discipline
- Clean, to the point, well-designed code
- Huge code coverage (with automatic tests)
- Reliability and confidence in the code
- Leaves various tests cases for future usage

Disadvantages:

- More time consuming;
- Hard to stick with it 100% of the time (tendency to ignore it for very simple cases and sometimes cause errors because of this)
- Constant change of context;