

COMP3613 – Software Engineering II

Lab – Apply TDD

Introduction

Test driven development requires deliberate effort and practice to be incorporated as part of an individual development practice. Similarly, code developed is not automatically reusable. Consideration is made on what aspects of the code may change between use and how that can be factored into the development or refactored at a later stage. This lab focuses on build three skills that is useful in the application of scrum; Re-usable code (REC), Peer Programming (PP) and Test-Driven Development (TDD).

Instructions

In teams of **two (2)** use the characteristics of the software given below to build out the test cases and the software to achieve the functionality required. Ensure to split the work between the members of your group. For example, one member can write the code for the test cases and the other implement the software functionality.

Software characteristics

Financial institutions provide different interest rate loans to customers depending on the purpose and the risk involved in the loan. Using the UWI credit union as an example build test cases and the corresponding software with the following characteristics:

- The software will provide the monthly payment a customer is expected to pay based on the “loan amount”, “the rate”, and the “repayment length”. An example of this is found at: <http://www.uwicu.tt/borrow-finance-your-needs/loan-calculator/>
- The rates for the different types of loans (“new home”, “home improvement”, “vehicle loans” and “education”) are provided at: <https://www.uwicu.tt/borrow-finance-your-needs/>.
- No UI is required for this task. This is a component that will be used by other applications.
- Software will be used in both procedural and object-oriented environments.
- It should be easy to update the interest rates or use interest rates from another institution to calculate monthly payments.