Assignment #1

Fall 2021

For each task, write your answers and findings in a README file together with any code.

1 REFLECTIONS

1.1 SHOOTING

A woman fired a shot at a man with her gun, but the man did not die. List the possible reasons for the man not dying.

1.2 ALIEN

An alien meets you and it asks you to teach it how to brush its teeth. Assume that the alien has teeth exactly like yours, and is as smart as you, but it needs a clear step-by-step instruction. List the steps. Be as detailed as you can. (Example: Hold the toothpaste with your left hand; turn the cap anti-clockwise)

2 TWO KATAS

Complete the following two katas using TDD. Make sure to follow the TDD mantra, "red-green-refactor":

- Red: Write a failing test.

- Green: Write the smallest implementation to make your test pass.

- Refactor: Make the necessary refactoring to the implementation and tests, in order to remove code redundancy

A fuller explanation of the TDD steps can be found here:
https://en.wikipedia.org/wiki/Test-driven_development

Remember, the point of these katas is not to solve the coding tasks as such. The point is to *use TDD*. Thus, if your code contains a solution to the task, but no tests, the solution is not accepted.

2.1 FAHRENHEIT-TO-CELCIUS CONVERTER

Use TDD to create a fahrenheit-to-celcius converter.
Use TDD to extend it to a celcius-to-fahrenheit converter.

2.2 ROMAN NUMERAL KATA

Implement an "Arabic numeral to roman numeral" converter using TDD. Follow the standard form of roman numerals – the rules can be found on the wikipedia page: https://en.wikipedia.org/wiki/Roman_numerals#Standard_form.

You can test your converter against this online converter:

http://www.novaroma.org/via_romana/numbers.html.

3 GIVE YOUR THOUGHTS ON TDD

Write your notes (in a readme file) regarding the TDD process, reflecting on the following questions.

- What was positive and good about using TDD?

- What was annoying or difficult?

- What surprised you?

- Did TDD help you write some tests you wouldn't otherwise have thought of?

4 HAND-IN

Individually, on Peergrade before the deadline. The hand-in should be a link to a repository including a section in README.md named Assignment 1 with answers to the exercise questions.