CS362-004

Assignment-4:

The primary goal of this assignment is to learn how to write a random tester.

Note:

- This is NOT part of the team project. Do it on your own!
- Submit your entire dominion folder with all **new files** to your repository.

Assignment Details:

1- Write an automated random test generator for three Dominion cards "the refactored code you created for assignment-2", one of them being the adventurer card, and at least one being a card you wrote unit tests for in assignment-3. Check these testers in as **randomtestcard1.c**, **randomtestcard2.**c, and **randomtestadventurer.c**. (**45 points**)

2- Submit a pdf file, called **Assignment-4.pdf**, to the Canvas contains the following sections:

- **Random Testing:** write up the development of your random testers, including improvements in coverage and efforts to check the correctness of your specification.
- **Code Coverage:** discuss how much of adventurer and the other cards' code you managed to cover. Was there code you failed to cover? Why?. For at least one card, make your tester achieve 100% statement and branch coverage, and document this (and how long the test has to run to achieve this level of coverage). It should not take more than five minutes to achieve the coverage goal (on a reasonable machine, e.g. flip).
- **Unit vs Random:** compare your coverage to that for your unit tests that you created in assignment-3, and discuss how the tests differ in ability to detect faults. Which tests had higher coverage – unit or random? Which tests had better fault detection capability? (Be detailed and thorough!). (**45 points**)

3- Add rules to the Makefile to produce randomtestcard1.out, randomtestcard2.out, and randomtestadventurer.out, including coverage results. (**10 points**)

Submission instructions:

- **Canvas**
  - **Assignment-4.pdf** that contains three sections: **Random Testing, Code Coverage,** and **Unit vs Random**.
- **The class github repository**
  - Submit your complete dominion code under **projects/your-onid/dominion.**
  - Create a new **branch** of your repository called "**youronid-assignment-4**" contains your final submission. This branch must be created before the due date to receive credit.

** Add a comment in **Canvas** and give the URL for your fork (under Assignment-4).