

Assignment 4

COMP SCI 2ME3, SFWR ENG 2AA4

March 20, 2018

Assigned: March 22, 2018

Spec and Code: April 9, 2018

Last Revised: March 20, 2018

All submissions are made through git, using your own repo located at:

`https://gitlab.cas.mcmaster.ca/se2aa4_cs2me3_assignments_2018/\[macid\].git`

where [macid] should be replaced with your actual macid. The time for all deadlines is 11:59 pm.

1 Introduction

The purpose of this assignment is to design and specify a module (or modules) to store the state of a game of Freecell. The modules cover the Model portion of the Model View Controller design pattern. The rules for Freecell can be found at the following web-page:

`https://www.freecell-solitaire-download.com/rules.html`

A sample implementation can be found at:

`http://www.cardgamesolitaire.com/freecell.php`

Your assignment is for the module that stores the state of the game board and the status of the game. You do not need to worry about modules that display graphics, or control the game play, etc.

Your specification should be written using LaTeX. All of your code should be written in C++. All code files, except for testing files, should be documented using doxygen. Your test code should use `catch`, version 2.

Part 1

Step 1

Submit your design specification, written in LaTeX, of the MIS for the game state module. If your specification requires additional modules, you should include their MISes as well. It is up to you to determine your modules interface; that is, you decide on the exported constants, access programs, exceptions etc. You also determine your state variables and specify the semantics for your access program calls. Your design does not need to concern itself with performance.

Part 2

Step 2

Submit C++ code that matches the specification given in the previous step. You should also submit code that tests your module(s) using `catch 2`. Document your source code using doxygen. Your code should include a makefile, with rules `make test` and `make doc`. Performance will not be considered in the grading.

Notes

1. Your git repo is organized with the following directories at the top level: **A1**, **A2**, **A3**, and **A4**. Your specification and code files should be placed in the **A4** folder
2. Please put your name and macid at the top of each of your source files.
3. Your program must work in the ITB labs on mills.
4. **Any changes to the assignment specification will be announced in class. It is your responsibility to be aware of these changes. Please monitor all pushes to the course git repo.**