Data Structures

Homework #3

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**Test Cases**

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| **Project Name: Homework 3** | |
| **Test Case: War- Rounds** | |
| **Test Case ID:** War\_TestRounds | **Test Designed by:** Kyle O’Connor |
| **Test Priority (Low/Medium/High):** High | **Test Designed date:** 2/19/2017 |
| **Module Name:** Game of War | **Test Executed by:** Saylee Dharne |
| **Test Title:** Game will end after ‘x’ rounds | **Test Execution date:** 2/20/2017 |
| **Description:** If game 02 is selected the game will end after |  |
| ’x’ amount of rounds and the winner of the most rounds wins the game. |  |
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| **Pre-conditions:** User has selected game option 2 (end after certain amount of rounds) as the input for game type. | |
| **Dependencies:** | |

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| **Step** | **Test Steps** | **Test Data** | **Expected Result** | **Actual Result** | **Status (Pass/Fail)** | **Notes** |
| 1 | Input Name | ‘Kyle’ | The game should end after 10 rounds have been played | Game accepted name and started. | Pass |  |
| 2 | Input game type 2 | 2 |  | Accepted input of 2 and asked for number of rounds to play. | Pass |  |
| 3 | Select the amount of rounds | 10 |  |  | Pass |  |
| 4 | Play the game |  |  | Game was played with no errors. | Pass |  |
| 5 | Game should end after the user input amount of rounds have been played |  |  | End of game message of winning was printed.  The output while testing was:  Congratulations, Kyle! You have won the game. | Pass |  |

**Post-conditions:**

The user will have either won or lost the game after 10 rounds of the game of war have been played.

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| **Homework 3** | |
| **Test Case- War: Side pile protection** | |
| **Test Case ID:** War\_Sidepile\_1 | **Test Designed by: Evan Akers** |
| **Test Priority (Low/Medium/High):** High | **Test Designed date:**  2/20/2017 |
| **Module Name:** War Deck of Cards | **Test Executed by:** Kyle O’Connor |
| **Test Title:** Verify the side pile cannot be manipulated in a wrong way | **Test Execution date:** 02/20/2017 |
| **Description:** Test the side pile used in War |  |
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| **Pre-conditions:** Game has been started with no errors and deck should not be empty. | |
| **Dependencies:** Cards should be properly initialized. | |

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| **Step** | **Test Steps** | **Test Data** | **Expected Result** | **Actual Result** | **Status (Pass/Fail)** | **Notes** |
| 1 | The game is started. The name of the player should be entered.  Either option of playing till a player runs out of cards or for a number of rounds can be entered. | PlayerName  1 or 2  If 2 was selected, any number between 1 and 1000 | The game should be started and the user should be shown their card and asked what move they would like to play. |  | Pass |  |
| 2 | User should play a card from the deck and a card from the side pile, by selecting option 2. This needs to be done 6 times | 2 | Player Side pile has 0 cards and a message is displayed saying the side pile is empty | The option is available for the player to use cards in the side pile as long as the number of cards is above 0 | Pass |  |
| 3 | User should store the card they draw in the side pile 6 times | 3 | Player Side pile has 5 cards and a message is displayed saything the side pile is full, no more cards can be added | The player has the option to add cards to the side pile as long as the number of cards is below 5 | Pass |  |

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| **Homework 3** | |
| **Test Case- War: The Deck of Card Moves Work** | |
| **Test Case ID:** War\_1 | **Test Designed by: Saylee Dharne** |
| **Test Priority (Low/Medium/High):** High | **Test Designed date:**  2/19/2017 |
| **Module Name:** War Deck of Cards | **Test Executed by: Evan Akers** |
| **Test Title:** Verify that the Deck of Cards options work correctly | **Test Execution date: 2/20/2016** |
| **Description:** Test the deck of cards used in War |  |
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| **Pre-conditions:** Game has been started with no errors and deck should not be empty. | |
| **Dependencies:** Cards should be properly initialized. | |

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| **Step** | **Test Steps** | **Test Data** | **Expected Result** | **Actual Result** | **Status (Pass/Fail)** | **Notes** |
| 1 | The game is started. The name of the player should be entered.  Either option of playing till a player runs out of cards or for a number of rounds can be entered. | PlayerName  1 or 2  If 2 was selected, any number between 1 and 1000 | The game should be started and the user should be shown their card and asked what move they would like to play. |  |  |  |
| 2 | User should play card from deck, by selecting option 1. | 1 | Deck has fewer cards after playing the card. | Deck went from 21 to 20 cards | Pass | Deck only has fewer cards if the user loses the round |
| 3 | User should play a card from the deck and a card from the side pile, by selecting option 2. | 2 | Deck has 1 less card and side pile has 1 less card after playing. | Deck and side pile respectively went from 24 and 3 to 23 and 2 | Pass |  |
| 4 | User should add current card to the side pile and play next card from deck, by selecting option 3. | 3 | Deck has 1 less card and side pile has 1 more card after playing. | Deck has either 2 less cards when losing or 2 more cards when winning | Pass-OK |  |
|  | Test edge cases: |  | . |  |  |  |
| 5 | Get 1 card in the deck and try to select option 3 of adding a card to the side pile. User should not be able to add current card to the side pile and play next card from deck, if the number of cards in the deck is 1 or if the side pile is full. | 3 | Option for adding card to the side pile should not appear and if the user still chooses the option, they are prompted for another input. | Tells user that is not a valid option | Pass |  |
| 6 | Have a full side pile and try to select option 3 of adding a card to the side pile. User should not be able to add current card to the side pile and play next card from deck, if the number of cards in the deck is 1 or if the side pile is full. | 3 | Option for adding card to the side pile should not appear and if the user still chooses the option, they are prompted for another input. | Option doesn’t appear, input is prompted again | Pass |  |
| 7 | Empty the side pile and try to select option 2 to play a card from the side pile. User should not be able to play a card from the deck and a card from the side pile, if the side pile is empty or if the user is playing from the side pile and there is only 1 card in the side pile. | 2 | Option for playing a card from the side pile should not appear and if the user still chooses the option, they are prompted for another input. | Option doesn’t appear, input is prompted again | Pass |  |
| 8 | Empty the deck. User should not be able to see/ play any cards from the empty deck. |  | Option to play cards from the deck should not appear for an empty deck. The user should be directed to play from the side pile. | The game automatically draws from the side pile and tells the user | Pass |  |

## Compilation Instructions

This has been tested by creating a new project within Visual Studios with the following options:

Win32 Console Application

Create directory for solution OFF

Empty project ON

Precompiled header OFF

SDL OFF

Then

Add the following to the project:

* Deck.cpp
* Deck.h
* Player.cpp
* Player.h
* SidePile.cpp
* SidePile.h
* HW3Main.cpp

Build and run.

**Contributions**

Kyle O’Connor did task 1 and write up

Smit Patel helped with Task 1 and formatting/commenting

Evan Akers did task 2

Saylee Dharne did task 3