

## Black Box Test Plan: Hearts program

**Introduction:** The text in bold in the **Description** column represents the test inputs to the program. You can stop program execution by pressing Ctrl+C.

| Test ID                                        | Description                                                                                                                  | Expected Results                                                                                                                                                                                                                                                                           | Actual Results                                                                                                                                                                                                                                                                             |
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| testInitialGUI<br><br>Author: Dr. Balik        | <b>\$ java -cp bin HeartsGUI Player -t</b><br><br><b>(Close window to stop execution)</b>                                    | GUI entitled "CSC116 Hearts", with directions "Player's Turn", Player: 0, Computer 1: 0, Computer 2: 0, and Computer 3: 0 are displayed. The Player's card images are displayed in this order: 2, 6, 10, Ace of Clubs; 5 9, King of Diamonds; 4, 8, Queen of Spades; 3, 7, Jack of Hearts. | GUI entitled "CSC116 Hearts", with directions "Player's Turn", Player: 0, Computer 1: 0, Computer 2: 0, and Computer 3: 0 are displayed. The Player's card images are displayed in this order: 2, 6, 10, Ace of Clubs; 5 9, King of Diamonds; 4, 8, Queen of Spades; 3, 7, Jack of Hearts. |
| testPlayingFirstTrick<br><br>Author: Dr. Balik | <b>\$ java -cp bin HeartsGUI Player -t</b><br><br><b>Click on 2 of Clubs</b><br><br><b>(Close window to stop execution).</b> | Computer 1 plays 3 of Clubs, Computer 2 plays 4 of Clubs, Computer 3 plays 5 of Clubs and takes all the cards. Computer 3 then plays 9 of Clubs.<br>Player: 0, Computer 1: 0, Computer 2: 0, and Computer 3: 0 are displayed.                                                              | Computer 1 plays 3 of Clubs, Computer 2 plays 4 of Clubs, Computer 3 plays 5 of Clubs and takes all the cards. Computer 3 then plays 9 of Clubs.<br>Player: 0, Computer 1: 0, Computer 2: 0, and Computer 3: 0 are displayed.                                                              |

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| testPlayingWrong Suit<br><br>Author: Dr. Balik              | \$ <b>java -cp bin HeartsGUI Player -t</b><br><br><b>Click on 2 of Clubs</b><br><b>Click on 4 of Spades</b><br><br><b>(Click OK and close window to stop execution).</b>                                 | Dialog box entitled Invalid Move with message “You must play a card of the same suit that started the trick.” pops up.                 | Dialog box entitled Invalid Move with message “You must play a card of the same suit that started the trick.” pops up.                 |
| testLeadingHeartsTooSoon<br><br>Author: Dr. Balik           | \$ <b>java -cp bin HeartsGUI Player -t</b><br><br><b>Click on 2 of Clubs</b><br><b>Click on Ace of Clubs</b><br><b>Click on 3 of Hearts</b><br><br><b>(Click OK and close window to stop execution).</b> | Dialog box entitled Invalid Move with message “You cannot start a trick with a Heart until one has been played during trick.” pops up. | Dialog box entitled Invalid Move with message “You cannot start a trick with a Heart until one has been played during trick.” pops up. |
| testLeadingAndWinningQueenOfSpades<br><br>Author: Dr. Balik | \$ <b>java -cp bin HeartsGUI Player -t</b><br><br><b>Click on 2 of Clubs</b><br><b>Click on Ace of Clubs</b><br><b>Click on Queen of Spades</b>                                                          | Player: 13, Computer 1: 0, Computer 2: 0, and Computer 3: 0 are displayed.                                                             | Player: 13, Computer 1: 0, Computer 2: 0, and Computer 3: 0 are displayed.                                                             |

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| testPlayingWrongCard<br>FirstTrick<br><br>Author: Yousif<br>Mansour | <b>\$ java -cp bin HeartsGUI Player -t</b><br><br><b>Click on 6 of Clubs</b><br><br><b>(Close window to stop execution).</b>                     | Dialog box entitled Invalid Move<br>with message “You must play the 2<br>of Clubs to start the trick.” pops up.                                | Dialog box entitled Invalid Move<br>with message “You must play the 2<br>of Clubs to start the trick.” pops up.                                |
| testLosingAllTricks<br><br>Author: Yousif<br>Mansour                | <b>\$ java -cp bin HeartsGUI Player -t</b><br><br><b>Click on 2 of Clubs</b><br><b>Click on 6 of Clubs</b><br><b>Click on 10 of Clubs</b>        | Computer 3 wins all 3 tricks played.<br><br>Player: 0, Computer 1: 0, Computer<br>2: 0, and Computer 3: 0 are<br>displayed.                    | Computer 3 wins all 3 tricks played.<br><br>Player: 0, Computer 1: 0, Computer<br>2: 0, and Computer 3: 0 are<br>displayed.                    |
| testComputerFollowSuit<br><br>Author: Yousif<br>Mansour             | <b>\$ java -cp bin HeartsGUI Player -t</b><br><br><b>Click on 2 of Clubs</b><br><b>Click on Ace of Clubs</b><br><b>Click on King of Diamonds</b> | All the Computer players play a<br>diamond-suited card.<br><br>Player: 0, Computer 1: 0, Computer<br>2: 0, and Computer 3: 0 are<br>displayed. | All the Computer players play a<br>diamond-suited card.<br><br>Player: 0, Computer 1: 0, Computer<br>2: 0, and Computer 3: 0 are<br>displayed. |

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| testComputerPlaysHearts<br><br>Author: Yousif Mansour | <b>\$ java -cp bin HeartsGUI Player -t</b><br><br><b>Click on 2 of Clubs</b><br><b>Click on 6 of Clubs</b><br><b>Click on 10 of Clubs</b><br><b>Click on 5 of Diamonds</b><br><b>Click on Ace of Clubs</b>                                | All the Computer Players play a hearts-suited card because there are no more clubs.<br><br>Player: 3, Computer 1: 0, Computer 2: 0, and Computer 3: 0 are displayed.            | All the Computer Players play a hearts-suited card because there are no more clubs.<br><br>Player: 3, Computer 1: 0, Computer 2: 0, and Computer 3: 0 are displayed.            |
| testCanPlayHeartsSuit<br><br>Author: Yousif Mansour   | <b>\$ java -cp bin HeartsGUI Player -t</b><br><br><b>Click on 2 of Clubs</b><br><b>Click on 6 of Clubs</b><br><b>Click on 10 of Clubs</b><br><b>Click on 5 of Diamonds</b><br><b>Click on Ace of Clubs</b><br><b>Click on 3 of Hearts</b> | No error message pops up and the 3 of hearts card is played. All computer players follow suit.<br><br>Player: 3, Computer 1: 0, Computer 2: 4, and Computer 3: 0 are displayed. | No error message pops up and the 3 of hearts card is played. All computer players follow suit.<br><br>Player: 3, Computer 1: 0, Computer 2: 4, and Computer 3: 0 are displayed. |