The testing techniques employed in my program are as follows.

Junit Testing

Three java classes make use of the JUnit testing. (make11, Highscore, RoundCount)

Make11Test class includes Junit testing for dealing initial cards and making sure it returns an array of five, which we will print to the user in the game. Functionality of the high scores table was being tested by inserting a new high score and expecting the value we passed into it. Testing to get the lowest score allows the user to make comparisons on whether their score should be put on the high score table.

testReplacingCards() test checks if two arrays are similar after we swap out a card, in which we assertFalse to complete the test. This functionality is utilised throughout the program to swap the users chosen card after they have made 11.

Additionally, edge case testing for invalid inputs were being tested where we input an invalid choice to check for invalid input handling, a while loop was used to correct the invalid input.

HighscoreTest and RoundCountTest both test the same functionalities which play a crucial role in keeping track of the users progress throughout the game. Functionality of the **increment()** method and the getter method **getScore()** has been tested by expecting specific values after a certain amount of increments.
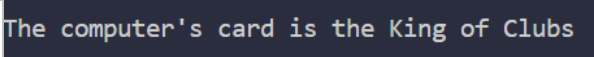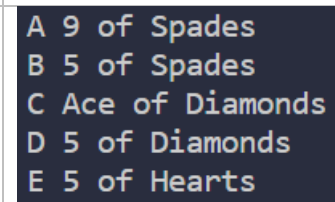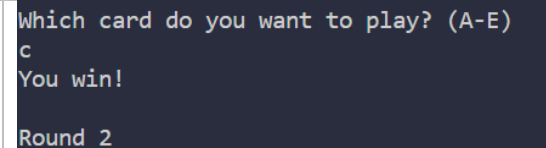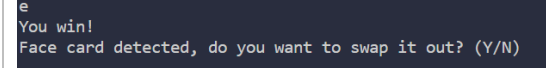
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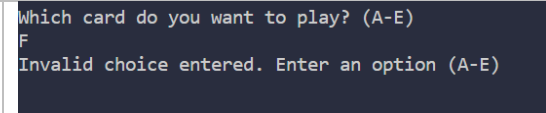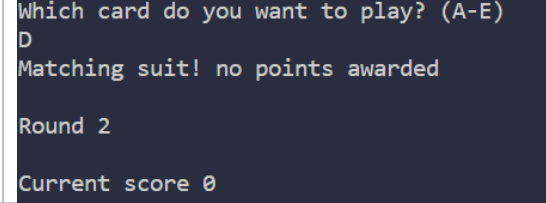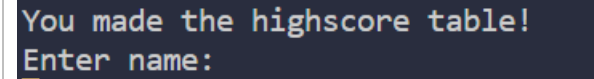
Make11Test class includes test code for printing out the 5 cards to the user which will be used throughout the course of the game.

DeckTest class contains test code to check that cards are being successfully being removed from the deck, in the example we print fifty random cards then print out the remaining deck, where we expect two cards to be left.

CardTest class we test out the functionality of making 11 with two predefined cards, we test the getter methods **getRankValue()** to make comparisons.

Observation / Edge Case Testing

Key functionalities of the make11 game is being tested additionally with edge cases and invalid inputs. Face card prompts only shows up when a face card is detected.

Functionality	Expected Outcome	Result	Screenshots
Deal Cards	User is dealt five cards and allows them to pick option A-E	Pass	The computer's card is the King of Clubs
Deal Computer Card	Computers card is dealt and printed on screen	Pass	A 9 of Spades B 5 of Spades C Ace of Diamonds D 5 of Diamonds E 5 of Hearts
User picks an option	Chosen card's rank is compared with computers card's rank and chosen card is swapped	Pass	Which card do you want to play? (A-E) c You win! Round 2
Face Card is detected in the deck while user makes 11	Prompts user to enter option A-E to swap out face card only when detected	Pass	e You win! Face card detected, do you want to swap it out? (Y/N)
Invalid option (F-Z, 0-9 etc.)	While loop runs until a valid option A-E is chosen	Pass	Which card do you want to play? (A-E) F Invalid choice entered. Enter an option (A-E)
Same suit	No point is awarded, round incremented, card is replaced and game continues	Pass	Which card do you want to play? (A-E) D Matching suit! no points awarded Round 2 Current score 0
User scores higher than lowest highscore	User qualifies for highscore table and is prompted to enter their name	Pass	You made the highscore table! Enter name:
View replay	User selects yes when prompted to view replay	Pass	Round 1 Player's hand: 6 of Hearts, 7 of Hearts, Queen of Clubs, 10 of Diamonds, 10 of Spades Computer's card: 4 of Hearts Player's card: 6 of Hearts No point scored Round 2 Player's hand: 7 of Clubs, 7 of Hearts, Queen of Clubs, 10 of Diamonds, 10 of Spades Computer's card: 6 of Spades Player's card: 10 of Spades No point scored