

The Java final will consist of a card solitaire simulation game written in Java. Below are the rules for the card game.

Taking a standard, shuffled 52-card deck, draw the top 4 cards into a row, left to right on to the table so that the suit can be seen.

Step 1: If the last 4 cards on the right (or if there are only 4 cars) are all the same color remove all 4 of them.

Step 2: If the last card on the right and the 4th from last card are the same color, discard the 2nd and 3rd from last card and move the last card to the now second to last card. Check if this adjustment of cards requires another removal of cards (i.e. last 4 are the same color or the last card and the 4th from last card are the same color).

Step 3: If you cannot remove any cards place a new card at the end of the row and check for card removal by going to Step 1.

The game is won if all the 52 cards have been discarded.

The program should:

- Have your name comments at the top of the program
- Use an array of char to represent the deck of cards
- Be able to except a hard-coded deck of cards (for grading reasons)
- Show the result after a card was placed
- Give an option to write the output to a text file supplied by the user
- Have comments explaining the code

Points will be given for demonstration of the following:

- Variable declaration
- Arrays
- For loop
- While loop
- Conditional statements
- Program logic
- Methods
- Writing to a text file
- Program input/output
- Successful output
- Code indentation
- Comments

The following is an example of a game of solitaire. The shuffled deck is shown below. The cards are taken off from the end of the array. This is a losing game because it ends with four cards on the table.

Shuffled deck: [B, B, R, R, B, B, R, B, B, B, R, R, R, R, R, R, B, R, R, B, B, R, R, B, B, B, B, B, B, B, B, B, R, B, R, R, B, R, R, R, R, B, B, R, B, R, R, B, R, R]

Current Table:

Current Table: R R B R

Current Table: R R

Current Table: R R R B

Current Table: R R R B R

Current Table: R R R

Current Table: R R R B

Current Table: R R R B B

Current Table: R R R B B R

Current Table: R R R R

Current Table:

Current Table: R R R B

Current Table: R R R B R

Current Table: R R R

Current Table: R R R R

Current Table:

Current Table: B R B B

Current Table: B B

Current Table: B B B B

Current Table:

Current Table: B B B B

Current Table:

Current Table: B B R R

Current Table: B B R R B

Current Table: B B B

Current Table: B B B B

Current Table:

Current Table: R R B R

Current Table: R R

Current Table: R R R R

Current Table:

Current Table: R R R R

Current Table:

Current Table: B B B R

Current Table: B B B R B

Current Table: B B B

Current Table: B B B B

Current Table:

Current Table: R R B B

End Table: R R B B

The following is an example of a game of solitaire. The shuffled deck is shown below. The cards are taken off from the end of the array. This is a winning game because it ends with zero cards on the table.

```
Shuffled deck: [B, B, R, R, B, R, R, B, B, B, B, R, R, R, B, B, R, R, R, R, B, B, B, R,
B, R, R, R, B, B, R, B, R, B, R, B, R, B, R, B, B, R, R, R, R, B, R, B, B, R, B, B]
Current Table:
Current Table: B B R B
Current Table: B B
Current Table: B B B R
Current Table: B B B R B
Current Table: B B B
Current Table: B B B R
Current Table: B B B R R
Current Table: B B B R R R
Current Table: B B B R R R R
Current Table: B B B
Current Table: B B B B
Current Table:
Current Table: B R B R
Current Table: B R B R B
Current Table: B R B R B R
Current Table: B R B R B R B
Current Table: B R B R B R B R
Current Table: B R B R B R B R B
Current Table: B R B R B R B R B R
Current Table: B R B R B R B R B R B
Current Table: B R B R B R B R B R B B ←notice how placing this black card brings the table to...
Current Table: B R B R B R B R B B
Current Table: B R B R B R B B
Current Table: B R B R B B
Current Table: B R B B
Current Table: B B ←..here
Current Table: B B R R
Current Table: B B R R R
Current Table: B B R R R B
Current Table: B B R R R B R
Current Table: B B R R R
Current Table: B B R R R B
Current Table: B B R R R B B
Current Table: B B R R R B B B
Current Table: B B R R R B B B R
Current Table: B B R R R B B B R R
Current Table: B B R R R B B B R R R
Current Table: B B R R R B B B R R R R
Current Table: B B R R R B B B
Current Table: B B R R R B B B B
Current Table: B B R R R
Current Table: B B R R R B
Current Table: B B R R R B R
Current Table: B B R R R
Current Table: B B R R R R
Current Table: B B
Current Table: B B R B
Current Table: B B
Current Table: B B B B
Current Table:
Current Table: B R R B
Current Table: B B
Current Table: B B R R
Current Table: B B R R B
Current Table: B B B
Current Table: B B B B
Current Table:
End Table:
```