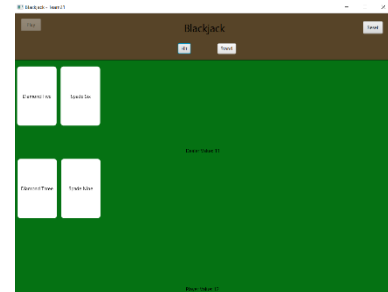


Peer Review: Blackjack / Team21Project

All suggestions and criticisms in this peer review refer to the code on the 14.01.2022 at 20:30. Therefore, points can be object to change by the team and therefore lose their effect/recommendation. This includes bugs, styling conventions and generally everything related to code.

General:

The game has a very simple graphic user interface, which, however, the game is easy to understand at first glance and the interface is sufficient for the game in almost all cases.



Source Code:

	PASS	FAIL	PARTIAL
Is the code readable for outstanding/ external persons?	✓		
Are comments used to simplify the code?		✗ a.)	
Are the naming convention of variables correct?	✓		
Have the correct data types & modifiers been selected?		✗ b.)	
Are there no pointless initializations?		✗ c.)	
Styling conventions	✓ d.)		
Main-Class can be easily identified	✓		
Check if unexposed instance variables are present in form objects.			⚠ e.)
Array bounds are checked.	✓		
Does the configuration get applied to all classes?			⚠
Does the (centralized) validation get applied to all requests?	✓ f.)		
Is logging used? E.g., log4j2	✓ g.)		
Is there any unhandled race condition?	✓		
Is the Readme comprehensible?	✓		

a.) even though the code is easy to read, it is recommended to add comments if this is to be reviewed by others

b.) In Card.java, the variable "suit" should be set to private, as it is only needed in the class Card. However, the other two variables "number" and "worth" should also be set to private and called via getter/setter methods.

In Hand.java the variable "worth" is declared as "SimpleIntegerProperty". Wouldn't a simple int be enough?

c.) The String "winner" in Main.Java Line 126 could be simplified to "String winner;".

d.) The use of "enums" is a good way for the various enumerations of the map names.

e.) Most instance variables are set to private. In Card.java the instance variables are set public. It is to be recommended to use private modifiers with getter/setter-methods.

f.) Since only buttons are used, no input validation is required.

g.) Since log4j/log4j2 is not requested and it is not needed here and therefore not implemented.

Flow Control / Structure:

	PASS	FAIL	PARTIAL
Are there backdoor/unexposed logic classes?			⚠ h.)
Are there unused configurations related to logic?			⚠ i.)

h.) Since the method “restartGame()” only calls the method “startGame()”, it would make sense to rename the method “startGame()” to “newGame()” and delete “restartGame()”.

i.) The method “getCardCount()” in the Class Hand.java is not needed and should be removed.

Error Control / Handling:

	PASS	FAIL	PARTIAL
Is the execution flow correct in failure cases?	✓ j.)		
Is the execution stopped/terminated after/for invalid request/s?			⚠ k.)
Are the checks correct implemented? Is there any backdoor parameter?	✓ l.)		
Are security checks placed before processing inputs? Input data is constrained and validated for type, length, format, and range.	✓ m.)		
Is the program designed to fail gracefully?	✓ n.)		

j.) No errors can occur, as the input is only via buttons and no other inputs are used.

k.) No errors can occur, as the input is only via buttons and no other inputs are used.

l.) No backdoor parameters.

m.) No text input.

n.) Main.java Line 70: Exception should be changed to IOException.¹

Usability / Bugs:

A small bug is present with the reset button after the play button has been pressed. This makes it possible to deal a new hand before the current one is finished. Also, the basic sense of the reset button is not obvious, as the basic rules are covered with the play, hit and stand buttons. The easiest way to fix this is to delete the reset button completely.

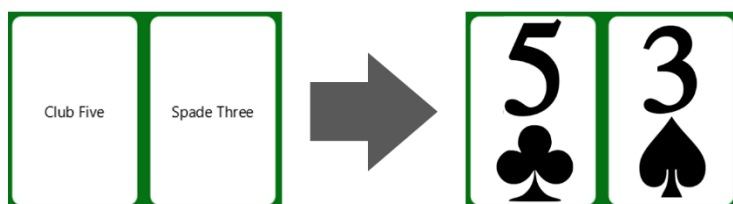
Normally, the dealer's second card is not revealed until all players have closed their turn (hit/stand).

Recommendations:

The only case where the game ends before this is when the dealer has 21 points (BlackJack) with the first two cards.

When a player has two cards with the same value, it is also possible to split them, which means that the player then has two independent games in front of him.

It would be nice to see card symbols instead of text.



¹ <https://rollbar.com/blog/java-exceptions-hierarchy-explained/> (as of 17.01.2022)