Blackjack - Emily Louie

About the game

The project is the game Blackjack. The user will play against the computer/dealer where you are shown your two cards, and one of the dealer's cards. The goal is for the user to have a higher value in the their hand than the dealer without exceeding the value of 21. The user can achieve this by asking for another card, "Hit", or to "Stay" if they want the dealer to have their turn. If they ask for another card, they lose if they exceed 21, but if they are still lower than 21, then they have the option to get another card or to stay, and so on. When it becomes the dealer's turn, they will automatically get another card if their hand total is less 17. Once their total is 17 or more, they will stop taking cards and the user's total and the dealer's total will be compared if the dealer does not bust. If the dealer busts, the user will automatically win. If the dealer has a higher total than the user, the dealer will win. If the user has a higher total than the dealer, the user will win. If they have the same total, it will be a draw.

The user will be asked if they want to play the game, and then inputting their choice to get more cards or to stay by using the mouse to click a button. When the program begins, the user will given the choice to play or not. They can decide this by clicking "Play" or "Exit" buttons. If they decide to play, the user will be shown their hand, and one of the dealer's cards face up and the other face down. Then, the user will be presented with their two options: "Hit" or "Stay". They will click "Hit" to get another card, or "Stay" to not get another card and let the dealer have their turn. If the player busts, or decides to stay, the game will show the result, and give the option for the user to "Play Again." Also, throughout the program running, the user has the option to mute or unmute the music playing in the background by clicking the "Mute/Unmute" button. If the user wants to exit the program, they can click the red circle/x button in the top left corner.

Gantt Chart

Activity	Week 0.5	Week 1	Week 1.5	Week 2	Week 2.5
Planning	■	■			
Programming*		■	■		
GUI				■	
Quality Assurance			■	■	■
Reflection					■

*Within the programming section, there are different classes that are needed. This includes the Card Table, the GUI class, the mechanics class, and the Hand class.
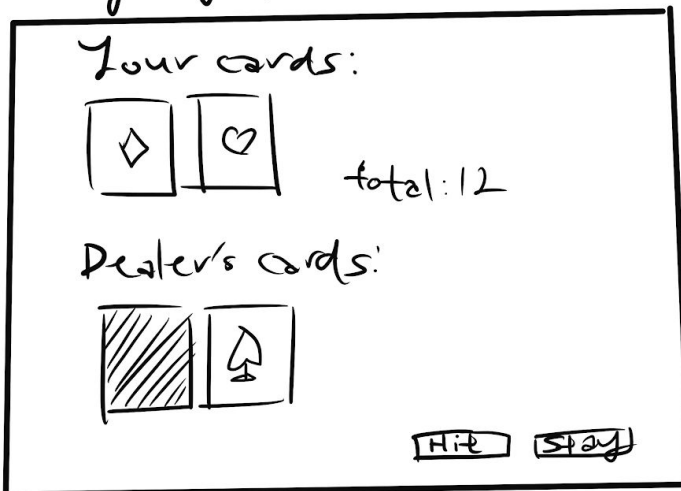
I think each activity I have listed above is important but I think planning is probably the most important because it sets up the rest of the project. Then programming and QA are the next most important aspects of the project.
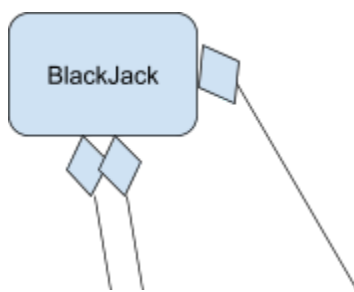
Sketches of GUI

Title page
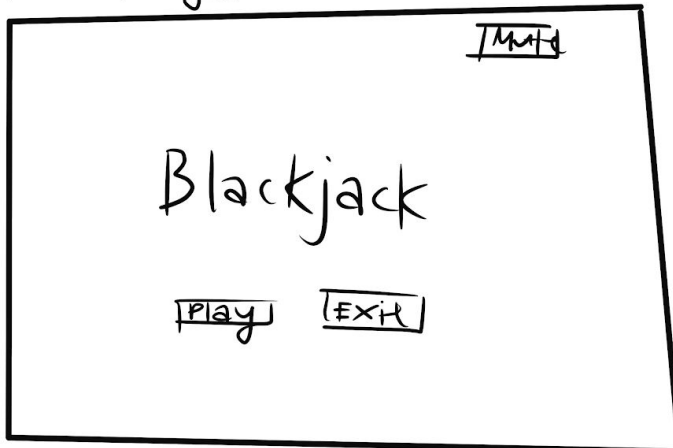
Playing panel

UML diagram

Testing Data

This can be found within the Hand class. This test code has been commented out at the end of the class. This is when I manually input values for the computer to see and test if the methods worked.

References
- https://stackoverflow.com/questions/16621750/using-custom-fonts-java-io-ioexception-error-reading-font-data
- https://stackoverflow.com/questions/5529754/java-io-ioexception-mark-reset-not-supported
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- http://www.bicyclecards.com/how-to-play/blackjack/
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- https://docs.oracle.com/javase/tutorial/uiswing/layout/gridbag.html
- https://stackoverflow.com/questions/837951/is-there-an-elegant-way-to-deal-with-the-ace-in-blackjack
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- https://docs.oracle.com/javase/tutorial/uiswing/layout/index.html