Charlize Aponte
Caden Effrece

A) your project design/algorithm and each team members' contribution with proper citations/references

Algorithm: (Flowchart is along the side of this page)0

Contributions:

Note: A lot of things on this project were done together, as we met up often to work on the project.

Together:

- 2-player Mode
- Logistics about how to interact with the users.
- GUI text interfaces.
- User input using scanner.
- Try/catches.

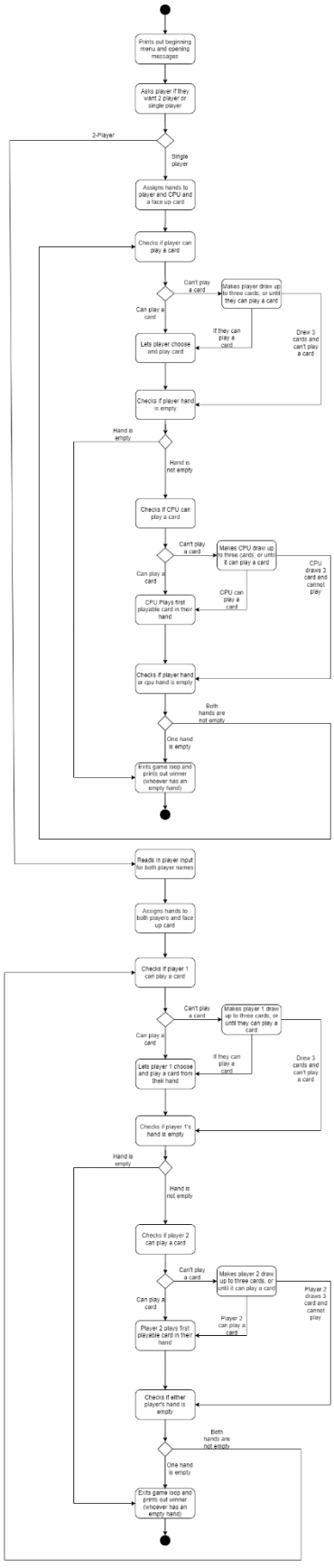
Charlize:

- Display hands Functions
- Card printout (updated Java)
- ASCII (All)
- Comments

Caden:

- Single-Player Mode
- Card printouts (Non-updated Java)
- CPU Functions
- Command Line Clearing

-Used draw.io to make flowchart



B) Challenges faced during the course of this project and adopted solutions,

During the duration of this project, we have endured many challenges as well as adopted many solutions with these challenges. One of the first challenges that we faced was trying to figure out the format in which we wanted our project to be done in as JavaFX or a Java text-ASCII based project, however we ultimately decided to do Java text-ASCII based project since we didn't think that we would complete a fully functioning JavaFX project for the time that we had to do it. When we figured out that we were doing a Java text-ASCII based project, we wanted to see how the cards were going to be printed out on the console because we wanted cards to print 5 cards horizontally with the card number and the suit. We were able to solve this solution by creating a displayHand function in which uses for-each loops that prints out the individual card and with the face and suit icon. After we were able to get the cards to print, we realized that we were using different versions of Java the suits would not print the suit icon. In which for each of our computers, MacOS MacBook and Dell Windows, we realized that we had to use Unicode and characters for the suit to display on our computers.

Another one of our challenges after we were able to display the cards was to display the the face up card when the player puts down the card. We were able to solve this by setting the face Up card to playCard(playerHand1, faceup) which was able to change the faceup card to the card that that player put down. We also encountered other issues such as forgetting to add remove the card for the second player's hand and giving cards to the wrong player in the draw phase, which was adding cards to one player only and not to both players. Once we finished our 2-player mode for crazy eights, we started to have some complications with having a single player - playing against the CPU and coding the CPU functions, such as having the CPU pick a card and play it. We solved these problems by making a function to make the computer play using an for each loop and an if statement. To get the CPU's card to become the faceUp card, we set the face Up card to faceUp = playCardCPU(computerHand, faceUp) in which displays the CPU card.

Once we finished coding both the single player and two-player game modes and our program was running. We realized that we forgot to implement that each player is able to have 3 draws per turn. We were able to add the make each player have 3 draws by adding a for each loop in the draw sequence that would stop when the player reaches a maximum of 3 draws. One of the finally challenges in our code was adding try catches in which our game would not terminate if the user enters the wrong input. For the try and catches, we were putting the wrong expection so, our expections were not getting handled. But eventually, we figured out the corret exceptions we had to use such as IndexOutOfBounds and InputMismatchException. And for IndexOutOfBounds, we decided to skip the player's turn if they input the wrong index.

C) learning experience and milestones: what you learned during working on this project,

Charlize: During this project, I learned how to use GitHub and VSCode which allowed me to work with my partner and share my changes to the project. I also learned how to implement a lot of the things that we learned in Java such as for each loop, if else statements and try catches in which the expectations get handled. I had a lot of fun doing this project especially with using the ASCII to make the text-based game.

Caden: I learned a lot more about using the for-each loop, specifically how to use them to print out the hands side-by-side. My problem-solving skills also increased with this assignment, as I had to think a lot about how to solve the problems and challenges listed above. I also learned about clearing the console, and although what I did only works for VSCode, I think it is still a super fun and interesting way to make a text-based GUI that prints through the terminal/command line.

D) any feedback, suggestions, recommendations for this project and class.

Charlize: I really enjoyed this project as well as this course. I enjoyed brainstorming ideas and working on the code with a partner to complete this project. The only thing that I would recommend is to know all the things that we have to do for the project at the beginning of the project so that we can use our time efficiently to make sure everything is completed.

Caden:
I liked this course as a whole, and I thought you did a great job teaching it! This project was also a lot of fun to do, and I enjoyed it greatly. It was challenging but interesting at the same time. This only thing I think could be improved was letting us know about this document portion of the project sooner, because it became a lot to finish all at once, and I had not known about this earlier, which made it harder to plan our time out efficiently as we are trying to balance this project with a lot of other things as finals week approaches.