CSC-130-02

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**BlackJack Project - Report**

**Purpose**

The purpose of the project is to construct a text-based blackjack game which is played in a terminal or console environment. Our primary goal is to design an engaging and friendly experience to users who are looking to play blackjack against a completely fair computer-controlled dealer. We wanted to make sure the interface was user friendly, but still maintained the essential rules of blackjack. As a team of beginner programmers, we recognized that each group member possesses various strengths and weaknesses. This project purposely emphasized the value of teamwork in programming.

**Approach**

To make the project progress smoothly, we delegated the leader role to Gayla and Elkins, who were each extremely responsible to make sure that the code was correct and in the most concise way. In our approach, we started by breaking down the blackjack game into smaller components to better understand its mechanics and structure. This allowed us to systematically address each aspect of the game, such as creating the deck, dealing cards, calculating hand values, and implementing player and dealer turns. Although we didn't follow a strict order, we began with the most basic parts of the code. Our goal was to ensure optimal readability and code organization, so we listed all functions at the top of the program before executing the game. We first created the card deck, accounting for each card, and then focused on safeguarding the game. We recognized that our game might not reach a wide audience, but we still wanted to emphasize the use of fake currency for gambling. Throughout the development process, we maintained open communication channels, regularly updating and seeking feedback from our teammates. This collaborative approach allowed us to identify and resolve any issues quickly and efficiently, ultimately resulting in a well-designed and functional text-based blackjack game.

**Outcomes**

We successfully created a text-based and functioning blackjack game. It allows users to play blackjack against a fair and random computer-controlled dealer. We were absolutely sure that we adhered to the basic rules of blackjack while programming. Our game provides a simple and user-friendly interface, which includes the currency, which is saved throughout each game. Additionally, we made sure to have safeguards for our users, so that anytime they wanted to exit the interface, they could. We provided an option for users to read the rules before playing and to play multiple rounds without restarting the program. We successfully automated the dealer through functions which will be called upon to iterate over each other to influence the dealer's choices. The dealer's "brain" algorithm decides whether to hit or stand based on a weighted random value. The likelihood to stand increased depending on how close the value was to 17. Overall, the team demonstrated the proper teamwork and programming ability through rigorous effort.