Lab 3

CS321L Winter 2023, Professor Christopher Diggins

Overview

This lab involves modifying a Blackjack game created using classes. See: https://en.wikipedia.org/wiki/Blackjack for the rules of Blackjack.

The initial code provided can be found at: https://github.com/cdiggins/cs321/tree/main/code-examples/Blackjack.

The object of the game is to win money by creating card totals higher than those of the dealer's hand but not exceeding 21, or by stopping at a total in the hope that the dealer will bust. On their turn, players choose to "hit" (take a card) or "stand" (end their turn and stop without taking a card).

Face cards are worth 10, and Aces are worth either 1 or 11, depending on what is more advantageous for the hand evaluation. A hand evaluated with an Ace worth 11 is called a “soft” hand.

In our version of Blackjack:

- We will use a single deck of cards.
- Players cannot split.
- Dealer stands on a soft 17 or higher, or hits automatically.

The code provided has a few problems:

- All fields are public (they should all be private)
- The player can bet more money than they have.

Tasks:

- Make all fields private.
- Add new functions, constructors, and/or properties to allow the functionality to work as before.
- Prevent the user from betting more money than they have.

Submission:

- The project file and source code of the game.
- Play three rounds of the game. Put the output in a text-file: output.txt.

Grading

- **2 points**: all fields are private, and the code still works.
- **1 point**: user can’t bet more money than they have.
- **1 point**: code follows the coding guidelines and is easy to read and understand.