

# **CIS-18A Course Project – Part 1**

## **Documentation**

### **Program Description**

The purpose of the project is to implement a Java Casino War card game for 1 player to wager against the dealer according to standard War card game rules. The program implements a Casino style game in which a player can wager, be dealt cards, and experience winning, losing, or going to war. The intended purpose of this specific project is to demonstrate the object-oriented programming concepts in Java.

The program will allow the user to enter a starting balance and a wager amount per round. The program will randomly deal a card from a 52-card shoe or six-deck casino shoe. The program will evaluate the Player card against the dealer card, determine a winner, make balance adjustments, and provide screen output. The program will output a summary file with all rounds, wagers, wins, losses, and ending balances.

The target audience for this application is novice Java programmers and customers desiring straightforward casino-style games. This is an educational application; the focus here is on program logic, organization, and basic Java functionality, not advanced graphics.

The program is good in that it has a sound object-oriented structure. There are separate classes for cards, decks, players, and game control, which adds to the modularity and maintainability of the program. It also demonstrates a solid variety of array manipulation, inheritance, interfaces, and file output, all of which are requirements for the programming class.

One source of limitation is relying on console based user interaction rather than a graphical interface, and simplifying play to course level functionality, without advanced casino play or multi player support.

Work in the future would deliver a Swing based graphical user interface, advanced betting options, stat management, multi game support, for improved usability and realism without losing well designed program structure.

## **Program Pseudocode**

START PROGRAM

Display welcome message  
Initialize player balance  
Initialize empty list to store game results

Create deck of cards  
Shuffle deck

WHILE player chooses to continue AND balance > 0

    Display current balance  
    Prompt player to enter wager amount  
    IF wager is greater than balance  
        Display error message  
        Prompt for wager again  
    END IF

    Deal one card to player  
    Deal one card to dealer

    Display player card and dealer card

    IF player card value > dealer card value  
        Player wins wager  
        Add winnings to balance  
        Record win in game results  
    ELSE IF player card value < dealer card value  
        Player loses wager  
        Subtract wager from balance  
        Record loss in game results  
    ELSE  
        Display WAR message  
        Execute war rules  
        Determine final winner  
        Update balance accordingly  
        Record war outcome in game results  
    END IF

    Ask player if they want to play another round

END WHILE

Display final balance  
Write game results and final balance to output file  
Display goodbye message

END PROGRAM

