Procedural Programming

Project 2021

Value 40%

Your project is to write a program that implements the adjusted form of the card game called "War," explained in detail below.

Game Overview

The game is based on the card game War - where each player flips over a card, highest card wins.

Number of players: Between 2-4 players

Game lasts 13 rounds

Setup: Each player gets 13 cards dealt from a shuffled deck of cards.

Note: Player can see that cards in their hand but cannot see their opponent's cards.

Scoring:

- 2-10 = 2-10 points (face value)
- J (Jack) = 11 points
- Q (Queen) = 12 points
- K (King) = 13 points
- A (Ace) = 14 points

How the game is played?

Round: Each round, a player chooses 1 card to play from their hand. The goal is to have the highest UNIQUE card. You can only use each card once.

Round 1 example:

- Player 1 = 5
- Player 2 = 8
- Player 3 = K

Special Rules & Notes:

ALL TIE RULE: If all cards tie another (example of 5 players: A,8,8,A,8) - then those points are rolled over to the next round - making the next round a VERY important round. If a tie like this happens on the last round, then those points are just "lost on the battlefield"

How the program should operate:

- When the program starts the user should be asked if they wish to start a new game or load a previously saved game.
- If a new game is created, the program should ask how many players are playing.
  - There is a minimum of two players
  - There is a maximum of four players.
  - If a new game is created then each player should be dealt their cards and the game commenced as per the rules.
- If a saved game is loaded, then the program should display the status of the game.
  - Once the game is loaded, the users should proceed with the remainder of the game.
- At any stage in the game, the players should be able to:
  - Complete their turn.
  - Save and Exit the game
  - Exit the game.
  - Output the game's status
- Once a player exits or saves a game, then they are given the following options:
    - Open a new game
    - Open a previously save game
    - Exit the application

Project Submission

Each student should submit the code developed to support the game. In addition to the code, a screencast should be included in the submission, demonstrating the solution's complete functionality.

Submission Deadline

Project Submissions to be submitted to martin.hynes@gmit.ie by 11.59 pm on the 6th January 2022

Points to Note

- Comments expected.
- Good programming practice is expected
- Ensure that any files that are needed to run the program are included in your submission.
- Your code has to run. Serious deduction of marks will occur for code that is not running correctly.
- Plagiarism is not acceptable.
- You may be asked to present your code/application