// Purpose: To create a simple High-Low Card Game. In this game, the player is dealt a random

// card and must guess whether the next card drawn will be higher or lower in value. The game provides

// options to start a new game, display the rules, and exit the program

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#include <iostream>

#include <vector>

#include <cstdlib> // For srand() and rand()

#include <ctime> // For time()

**using** **namespace** std;

// Define constants

**const** **int** NUM\_CARDS = 13; // Number of cards in a deck

**const** **int** MAX\_ROUNDS = 3; // Maximum number of rounds to play for best 2 out of 3

// Structure to represent a card

**struct** Card {

**int** value;

**char** suit;

};

// Function prototypes

**void** displayMenu();

**void** startGame();

**void** displayRules();

Card drawCard();

**bool** playRound(**int**& playerScore);

**int** main() {

srand((0)); // Seed the random number generator

**int** choice;

**do** {

displayMenu();

cout << "Enter your choice: ";

cin >> choice;

**switch** (choice) {

**case** 1:

startGame();

**break**;

**case** 2:

displayRules();

**break**;

**case** 3:

cout << "Exiting program...\n";

**break**;

**default**:

cout << "Invalid choice. Please try again.\n";

}

} **while** (choice != 3);

**return** 0;

}

// Function to display the menu options

**void** displayMenu() {

cout << "\n=== High-Low Card Game ===\n";

cout << "1. Start a new game\n";

cout << "2. Display game rules\n";

cout << "3. Exit\n";

}

// Function to start a new game

**void** startGame() {

**int** playerScore = 0;

**int** rounds = 0;

**bool** continueGame = **true**;

**do** {

cout << "Starting round " << (rounds + 1) << "...\n";

continueGame = playRound(playerScore);

rounds++; // Increment rounds played

cout << "Player score: " << playerScore << endl;

} **while** (continueGame && rounds < MAX\_ROUNDS); // Play until the player chooses to exit or maximum rounds reached

cout << "Game over.\n";

}

// Function to display the game rules

**void** displayRules() {

cout << "\n=== Game Rules ===\n";

cout << "1. You will be dealt a random card from the deck.\n";

cout << "2. You have to guess whether the next card drawn will be higher or lower.\n";

cout << "3. If your guess is correct, you win the round.\n";

cout << "4. If your guess is incorrect, you lose the round.\n";

cout << "5. The game continues until you choose to exit or reach the maximum rounds.\n";

}

// Function to draw a random card from the deck (returns a Card struct)

Card drawCard() {

Card card;

card.value = rand() % NUM\_CARDS + 1; // Random value between 1 and NUM\_CARDS

card.suit = 'H'; // For simplicity, we'll use 'H' for all suits (hearts)

**return** card;

}

// Function to play a round of the game (returns true if the game should continue, false otherwise)

**bool** playRound(**int**& playerScore) {

// Draw the current card

Card currentCard = drawCard();

cout << "Current card: " << currentCard.value << endl;

// Ask the player to guess

**char** guess;

cout << "Will the next card be (h)igher or (l)ower? ";

cin >> guess;

// Draw the next card

Card nextCard = drawCard();

// Display the next card

cout << "Next card: " << nextCard.value << endl;

// Determine if the player's guess is correct

**if** ((guess == 'h' && nextCard.value > currentCard.value) || (guess == 'l' && nextCard.value < currentCard.value)) {

cout << "Congratulations! Your guess is correct.\n";

playerScore++; // Increment player score

**return** **true**; // Continue the game

} **else** {

cout << "Sorry, your guess is incorrect.\n";

**return** **false**; // End the game

}

}

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Project

A screen shot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a game

Description automatically generated

A screenshot of a computer program

Description automatically generated