Task03- Tic tac toe game

#include <iostream>

#include <ctime>

#include <cstdlib>

using namespace std;

// Function to display the board

void displayBoard(char board[3][3]) {

cout << endl;

for (int i = 0; i < 3; i++) {

for (int j = 0; j < 3; j++) {

cout << board[i][j] << " ";

}

cout << endl;

}

}

// Function to check if the current player has won

bool checkWin(char board[3][3], char player) {

for (int i = 0; i < 3; i++) {

if (board[i][0] == player && board[i][1] == player && board[i][2] == player) {

return true;

}

}

for (int i = 0; i < 3; i++) {

if (board[0][i] == player && board[1][i] == player && board[2][i] == player) {

return true;

}

}

if (board[0][0] == player && board[1][1] == player && board[2][2] == player) {

return true;

}

if (board[0][2] == player && board[1][1] == player && board[2][0] == player) {

return true;

}

return false;

}

// Function to check if the game is a draw

bool checkDraw(char board[3][3]) {

for (int i = 0; i < 3; i++) {

for (int j = 0; j < 3; j++) {

if (board[i][j] == ' ') {

return false;

}

}

}

return true;

}

// Function to play the game

void playGame() {

// Seed the random number generator with the current time

srand(static\_cast<unsigned int>(time(0)));

// Create a 3x3 grid as the game board

char board[3][3] = {{' ', ' ', ' '},

{' ', ' ', ' '},

{' ', ' ', ' '}};

// Assign "X" and "O" to two players

char player = (rand() % 2 == 0) ? 'X' : 'O';

// Main game loop

while (true) {

displayBoard(board);

// Prompt the current player to enter their move

int row, col;

cout << "Player " << player << ", enter your move (row and column, 1-3): ";

cin >> row >> col;

// Make sure the move is valid

if (row < 1 || row > 3 || col < 1 || col > 3 || board[row - 1][col - 1] != ' ') {

cout << "Invalid move. Try again." << endl;

continue;

}

// Update the game board with the player's move

board[row - 1][col - 1] = player;

// Check if the current player has won

if (checkWin(board, player)) {

displayBoard(board);

cout << "Player " << player << " wins!" << endl;

break;

}

// Determine if the game is a draw

if (checkDraw(board)) {

displayBoard(board);

cout << "The game is a draw." << endl;

break;

}

// Switch the current player

player = (player == 'X') ? 'O' : 'X';

}

}

int main() {

char playAgain;

do {

playGame();

// Ask if the players want to play another game

cout << "Do you want to play again (y/n)? ";

cin >> playAgain;

} while (playAgain == 'y' || playAgain == 'Y');

return 0;

}