#include <stdio.h>

#include <stdlib.h>

#define SIZE 3

void displayBoard(char board[][SIZE]);

int checkWinner(char board[][SIZE], char player);

int main()

{

char board[SIZE][SIZE] = {{' ', ' ', ' '}, {' ', ' ', ' '}, {' ', ' ', ' '}};

int row, col, moveCount = 0;

char currentPlayer = 'X';

printf("Welcome to Tic-Tac-Toe!\n");

displayBoard(board);

while (moveCount < SIZE\*SIZE) {

printf("\nPlayer %c's turn. Enter row and column number to place your move: ", currentPlayer);

scanf("%d %d", &row, &col);

if (row >= 0 && row < SIZE && col >= 0 && col < SIZE && board[row][col] == ' ') {

board[row][col] = currentPlayer;

displayBoard(board);

if (checkWinner(board, currentPlayer)) {

printf("Player %c wins!\n", currentPlayer);

return 0;

}

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

moveCount++;

} else {

printf("Invalid move. Please try again.\n");

}

}

printf("Game over. It's a draw.\n");

return 0;

}

void displayBoard(char board[][SIZE])

{

printf("\n");

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

printf(" %c | %c | %c ", board[i][0], board[i][1], board[i][2]);

if (i != SIZE - 1) {

printf("\n---|---|---\n");

}

}

printf("\n");

}

int checkWinner(char board[][SIZE], char player)

{

// Check rows

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

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

return 1;

}

}

// Check columns

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

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

return 1;

}

}

// Check diagonals

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

return 1;

}

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

return 1;

}

return 0;

}