#include <iostream>

using namespace std;

char board[3][3];

char currentPlayer = 'X';

void initializeBoard() {

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

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

board[i][j] = ' ';

}

void printBoard() {

cout << "\n";

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

cout << " " << board[i][0] << " | " << board[i][1] << " | " << board[i][2] << " \n";

if (i < 2)

cout << "---|---|---\n";

}

cout << "\n";

}

bool isWin() {

// Check rows, columns and diagonals

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

if ((board[i][0] == currentPlayer && board[i][1] == currentPlayer && board[i][2] == currentPlayer) ||

(board[0][i] == currentPlayer && board[1][i] == currentPlayer && board[2][i] == currentPlayer))

return true;

if ((board[0][0] == currentPlayer && board[1][1] == currentPlayer && board[2][2] == currentPlayer) ||

(board[0][2] == currentPlayer && board[1][1] == currentPlayer && board[2][0] == currentPlayer))

return true;

return false;

}

bool isDraw() {

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

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

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

return false;

return true;

}

void switchPlayer() {

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

}

void makeMove() {

int row, col;

while (true) {

cout << "Player " << currentPlayer << ", enter row and column (1-3 each): ";

cin >> row >> col;

if (row >= 1 && row <= 3 && col >= 1 && col <= 3) {

row--; col--; // adjust for 0-indexed array

if (board[row][col] == ' ') {

board[row][col] = currentPlayer;

break;

} else {

cout << "That spot is taken! Try again.\n";

}

} else {

cout << "Invalid input. Use numbers 1 to 3.\n";

}

}

}

int main() {

initializeBoard();

cout << "Welcome to Tic Tac Toe (2 Player Mode)\n";

while (true) {

printBoard();

makeMove();

if (isWin()) {

printBoard();

cout << "Player " << currentPlayer << " wins!\n";

break;

} else if (isDraw()) {

printBoard();

cout << "It's a draw!\n";

break;

}

switchPlayer();

}

return 0;

}