

E:\tic++.cpp

```
1
2 #include <iostream>
3 using namespace std;
4
5 // Function to draw the Tic-Tac-Toe board
6 void drawBoard(char board[3][3])
7 {
8     cout << "-----\n";
9     for (int i = 0; i < 3; i++) {
10         cout << "| ";
11         for (int j = 0; j < 3; j++) {
12             cout << board[i][j] << " | ";
13         }
14         cout << "\n-----\n";
15     }
16 }
17
18 // Function to check for a win
19 bool checkWin(char board[3][3], char player)
20 {
21     // Check rows, columns, and diagonals
22     for (int i = 0; i < 3; i++) {
23         if (board[i][0] == player && board[i][1] == player
24             && board[i][2] == player)
25             return true;
26         if (board[0][i] == player && board[1][i] == player
27             && board[2][i] == player)
28             return true;
29     }
30     if (board[0][0] == player && board[1][1] == player
31         && board[2][2] == player)
32         return true;
33     if (board[0][2] == player && board[1][1] == player
34         && board[2][0] == player)
35         return true;
36     return false;
37 }
38
39 int main()
40 {
41     // Initialize the board and players
42     char board[3][3] = { { ' ', ' ', ' ' },
43                          { ' ', ' ', ' ' },
44                          { ' ', ' ', ' ' } };
45     char player = 'X';
46     int row, col;
47     int turn; // Declare turn here
48 }
```

```
49     cout << "Welcome to Tic-Tac-Toe!\n";
50
51     // Game loop
52     for (turn = 0; turn < 9; turn++) {
53         // Draw the board
54         drawBoard(board);
55
56         // Prompt for valid input
57         while (true) {
58             cout << "Player " << player
59                  << ", enter row (0-2) and column (0-2): ";
60             cin >> row >> col;
61
62             if (board[row][col] != ' ' || row < 0 || row > 2
63                 || col < 0 || col > 2) {
64                 cout << "Invalid move. Try again.\n";
65             }
66             else {
67                 break; // Valid input, exit the loop.
68             }
69         }
70
71         // Make the move
72         board[row][col] = player;
73
74         // Check for a win after making a move
75         if (checkWin(board, player)) {
76             drawBoard(board);
77             cout << "Player " << player << " wins!\n";
78             break; // Exit the loop after a win.
79         }
80
81         // Switch to the other player
82         player = (player == 'X') ? 'O' : 'X';
83     }
84
85     // End of the game
86     drawBoard(board);
87
88     // Check for a draw
89     if (turn == 9 && !checkWin(board, 'X')
90         && !checkWin(board, 'O')) {
91         cout << "It's a draw!\n";
92     }
93
94     return 0;
95 }
96
```