

Master “C Language” in 30 Days Challenge

(By Tech Involvers)

Project 2: Tic Tac Toe Game

Instructions:

- Read the problem carefully before trying to solve it.
- Do the tasks on your own. Don't copy it.
- The output of your program must be the same as given in the sample run.

Overview:

Develop a simple Tic-Tac-Toe game where two players can play against each other. The game board will be displayed, and players will take turns to place their marks (X or O) on the board. The game will check for a winner or a draw after each move.

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Requirements:

Game Board:

- Represent the game board using a 3x3 array.
- Display the game board after each move.

Player Input:

- Allow players to input their move (row and column).
- Validate player input to ensure the chosen cell is empty and within bounds.

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Game Logic:

- Check for a win condition (three in a row horizontally, vertically, or diagonally).
- Check for a draw condition (all cells filled with no winner).
- Alternate turns between players.

Functions:

- Initialize the game board.
- Display the game board.
- Handle player moves.
- Check for win or draw conditions.

Features Covered:

- **Arrays:** 2D array to represent the game board.
- **Loops and Conditionals:** Used for displaying the board, handling player moves, and checking win/draw conditions.
- **Functions:** Functions for initializing the board, displaying the board, checking win/draw conditions, and handling player moves.
- **Input/Output:** `scanf` for player input and `printf` for displaying the board and game status.
- **Game Logic:** Logic to check for winning and draw conditions.