



# Tic-Tac-Toe Game

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## Student Details

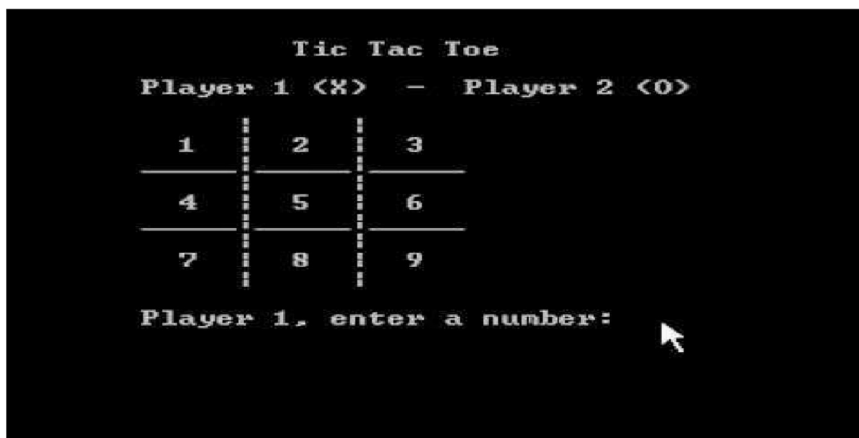
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## Overview

Tic-tac-toe is a game where two players X and O fill the hash (#) shaped box (consist of two vertical lines crossing two horizontal lines) with their alternate turns. The player who first fills the box with 3Xs or 3Os in a horizontal, vertical, or diagonal manner will win the game.

## Objectives

1. The game is to be played between two people.
2. One of the players chooses 'O' and the other 'X' to mark their respective cells.
3. The game starts with one of the players and the game ends when one of the players has one whole row/ column/ diagonal filled with his/her respective character ('O' or 'X').
4. If no one wins, then the game is said to be draw.



## Specifications

1. In our program the moves taken by the computer and the human are chosen randomly. We use `rand ()` function for this.
2. What more can be done in the program?

The program is not played optimally by both sides because the moves are chosen randomly. The program can be easily modified so that both players play optimally (which will fall under the category of Artificial Intelligence). Also the program can be modified such that the user himself gives the input (using `scanf()` or `cin`).

The above changes are left as an exercise to the readers.

3. Winning Strategy – An Interesting Fact

If both the players play optimally then it is destined that you will never lose (“although the match can still be drawn”). It does not matter whether you play first or second. In another way – “Two expert players will always draw”.