ABSTRACT

TIC TAC TOE APPLICATION

Tic Tac Toe is a simple two-player, turn-based game, where players alternately place their marks ("X" or "O") on a 3x3 grid with the objective of aligning three marks in a row, column, or diagonal. In this Java implementation, a 2D array is used to represent the 3x3 game board, where each element of the array corresponds to a position on the board. The array is initialized with placeholder values (such as spaces or dots) and updated as players make their moves. The game alternates between two players, allowing them to input their desired positions through the console interface. Input is validated to ensure that players can only make moves in unoccupied positions. This implementation highlights the use of arrays in Java for storing and manipulating data in a grid format, as well as the use of basic control structures (loops, conditionals) to manage the game's flow. The project showcases fundamental programming concepts such as user input handling, array manipulation, and game state management.The simplicity of the Tic Tac Toe game provides an excellent introduction to working with arrays, while also demonstrating how to create an interactive console application in Java.Keywords: Java, Tic Tac Toe, 2D Array, user input validation, game logic, win conditions, draw detection, game restart

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