

# 1. Tic Tac Toe

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## Student learning outcomes

- Students will demonstrate how to put styles on DIVs to create square colored tiles.
- Students will use the button element.
- Students will create onclick event handlers for div and button elements.
- Students will demonstrate understanding of the DOM (document object model).
- Students will use conditionals, loops, and functions in a real application.
- Students will begin understanding the process of top-down design.

## Real world applications:

- Students will learn about games and game play.
- Students will explore different kinds of user interfaces.

## Assignment requirements:

- This web page has a grid of tiles in which to display the letters X and O.
- The script keeps track of game play and indicates which player has the next move.
- The script determines when a user won the game and displays an appropriate message.
- A "new game" buttons clears the board and starts a new game.
- The page will use these new HTML tags:
  - div
  - button
- The page will use these JavaScript concepts:
  - Variables and assignment statements
  - Application initialization
  - Functions
  - getElementById
  - innerHTML
  - Return statement and return values
  - currentTarget
  - Events and event handlers, especially onclick
  - Boolean variables and Boolean operators (&&, ||)
  - If statements
  - For loops
  - getElementsByTagName
  - Array indexing
  - String concatenation using + operator

