PROMINEO TECH

Front End Technologies Week 11 Coding Assignment

Points possible: 70

Category	Criteria	% of Grade
Functionality	Does the code work?	25
Organization	Is the code clean and organized? Proper use of white space, syntax, and consistency are utilized. Names and comments are concise and clear.	25
Creativity	Student solved the problems presented in the assignment using creativity and out of the box thinking.	25
Completeness	All requirements of the assignment are complete.	25

Instructions: In VS Code, or an IDE of your choice, write the code that accomplishes the objectives listed below. Ensure that the code compiles and runs as directed. Take screenshots of the code and of the running program (make sure to get screenshots of all required functionality) and paste them in this document where instructed below. Create a new repository on GitHub for this week's assignments and push this document, with your JavaScript project code, to the repository. Add the URL for this week's repository to this document where instructed and submit this document to your instructor when complete.

Coding Steps:

1. Using any of the tools you've worked with so far, create a game of tic-tac-toe.

    a. A heading should say whether it is X's or O's turn and change with each move made.

    b. Create a tic-tac-toe grid using your HTML element of choice. When a cell in the grid is clicked, an X or O should appear in that spot depending on whose turn it is.

    c. A button should be available to clear the grid and restart the game.

d. When a player has won, or the board is full and the game results in a draw, a Bootstrap alert or similar Bootstrap component should appear across the screen announcing the winner.
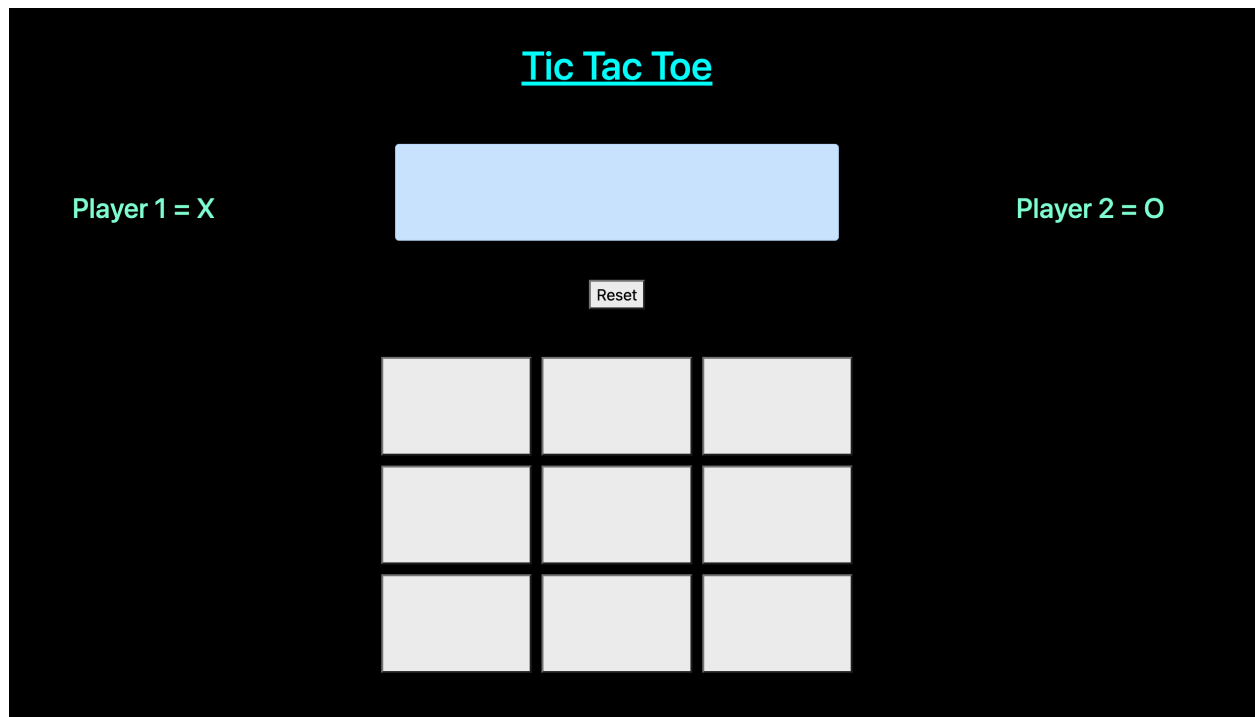
Screenshots of Code:

```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Document</title>
    <link
      rel="stylesheet"
      href="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css"
      integrity="sha384-ggOyR0iXCbMQv3Xipma34MD+dH/1fQ784/j6cY/iJTQUOhcWr7x9JvoRxT2MZw1T"
      crossorigin="anonymous"
    />
    <link rel="stylesheet" href="style.css" />
  </head>
  <body>
    <!-- Title -->

    <div class="container-fluid pb-5">
      <h1 class="text-center pt-5"><u>Tic Tac Toe</u></h1>
    </div>

    <!-- Player 1 and Player 2 -->

    <div class="container-fluid">
      <div class="row">
        <div class="col">
          <div class="text-center">
            <h3 class="player1 p-5">Player 1 = X</h3>
          </div>
        </div>
        <div class="col">
          <div class="text-center">
            <h3 class="winner p-5 alert alert-primary" role="alert" id="winner"></h3>
          </div>
        </div>
        <div class="col">
          <div class="text-center">
            <h3 class="player2 p-5">Player 2 = O</h3>
          </div>
        </div>
      </div>
    </div>
    <!-- Reset Button -->

    <div class="container-fluid pb-5">
      <div class="text-center">
        <button class="reset-button" type="button" onClick="clearBoard()">Reset</button>
      </div>
    </div>

    <!-- Gamex -->

    <div class="board">
      <button data-index="1" class="box" id="b1" ></button>
      <button data-index="2" class="box" id="b2" ></button>
      <button data-index="3" class="box" id="b3" ></button>
      <button data-index="4" class="box" id="b4" ></button>
      <button data-index="5" class="box" id="b5" ></button>
      <button data-index="6" class="box" id="b6" ></button>
      <button data-index="7" class="box" id="b7" ></button>
      <button data-index="8" class="box" id="b8" ></button>
      <button data-index="9" class="box" id="b9" ></button>
    </div>
    <script src="node_modules/jquery/dist/jquery.js"></script>
    <script src="app.js"></script>
  </body>
</html>
```

```css
.board {
    display: grid;
    grid-template-columns: repeat(3, 20vmin);
    grid-auto-rows: minmax(100px, auto);
    gap: 10px;
    justify-content: center;
}

body {
    background-color: black;
}

h1 {
    color: aqua;
}

h3 {
    color: aquamarine;
}
```

```javascript
const boxes = document.querySelectorAll('.box');

const playerx = 'X';
const playero = 'O';
let turn = playerx;

currentBoard = Array(boxes.length);

boxes.forEach((box) => box.addEventListener("click", boxClicked));

function boxClicked(e) {
    const box = e.target;
    const boxNumber = box.dataset.index;

    if(turn === playerx) {
        box.innerHTML = playerx;
        currentBoard[boxNumber - 1] = playerx;
        if ((currentBoard[0] == 'X') && (currentBoard[1] == 'X') && (currentBoard[2] == 'X') ||
            (currentBoard[3] == 'X') && (currentBoard[4] == 'X') && (currentBoard[5] == 'X') ||
            (currentBoard[6] == 'X') && (currentBoard[7] == 'X') && (currentBoard[8] == 'X') ||
            (currentBoard[0] == 'X') && (currentBoard[3] == 'X') && (currentBoard[6] == 'X') ||
            (currentBoard[1] == 'X') && (currentBoard[4] == 'X') && (currentBoard[7 ] == 'X') ||
            (currentBoard[2] == 'X') && (currentBoard[5] == 'X') && (currentBoard[8] == 'X') ||
            (currentBoard[0] == 'X') && (currentBoard[4] == 'X') && (currentBoard[8] == 'X') ||
            (currentBoard[2] == 'X') && (currentBoard[4] == 'X') && (currentBoard[6] == 'X')) {
            document.getElementById('winner').innerHTML = "Player X won";
        }
        else {
            turn = playero;
        }

    }else {
        box.innerHTML = playero;
        currentBoard[boxNumber - 1] = playero;
        if ((currentBoard[0] == 'O') && (currentBoard[1] == 'O') && (currentBoard[2] == 'O')||
            (currentBoard[3] == 'O') && (currentBoard[4] == 'O') && (currentBoard[5] == 'O') ||
            (currentBoard[6] == 'O') && (currentBoard[7] == 'O') && (currentBoard[8] == 'O') ||
            (currentBoard[0] == 'O') && (currentBoard[3] == 'O') && (currentBoard[6] == 'O') ||
            (currentBoard[1] == 'O') && (currentBoard[4] == 'O') && (currentBoard[7] == 'O') ||
            (currentBoard[2] == 'O') && (currentBoard[5] == 'O') && (currentBoard[8] == 'O') ||
            (currentBoard[0] == 'O') && (currentBoard[4] == 'O') && (currentBoard[8] == 'O') ||
            (currentBoard[2] == 'O') && (currentBoard[4] == 'O') && (currentBoard[6] == 'O')) {
            document.getElementById('winner').innerHTML = "Player O won";
        }
        else {
            turn = playerx;
        }
    }
}

function clearBoard() {
    currentBoard.fill(null);
    boxes.forEach((box) => box.innerText = '');
    document.getElementById('winner').innerHTML = '';
    turn = playerx;
}
```

Screenshots of Running Application:

PROMINEO TECH

Tic Tac Toe

Player 1 = X

Player O won

Player 2 = O

Reset

X	X	
O	O	O
X		

URL to GitHub Repository:

https://github.com/KyoAzumaya/tictactoe1.git