



## Front End Technologies Week 11 Coding Assignment

**Points possible:** 70

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

*For this project and all remaining projects , you should also have a file called .gitignore in your project directory. In that file you should have a line that says "/node\_modules" without the quotes. This tells git to ignore all your node module dependencies when it pushes code to your repo.*

*You should also have a file called package.json in your project directory. Please make sure this file gets pushed to your Github repo with all your other project files. This file is a manifest or list of all dependencies that your project requires to function properly. With this file someone can clone your repo and then run "npm install" in the project directory and they will automatically download all the node module dependencies needed.*

*In particular the graders will be cloning your repo (using git clone <https://github.com/YourUserName/YourRepoName>) and then installing all the dependencies (using npm install). They can then test your project locally on their machine.*

**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.



# PROMINEO TECH

## 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:



# PROMINEO TECH

## HTML

```
<> index.html X # index.css JS index.js
<> index.html > html > body.container > div#grid.container.text-center > h3#info
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta http-equiv="X-UA-Compatible" content="IE=edge">
6      <meta name="viewport" content="width=device-width, initial-scale=1.0">
7      <title>Week 11 Coding Project</title>
8      <link rel="stylesheet" href="node_modules/bootstrap/dist/css/bootstrap.css">
9      <link rel="stylesheet" href="index.css">
10     <link rel="preconnect" href="https://fonts.googleapis.com">
11     <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
12     <link href="https://fonts.googleapis.com/css2?family=DynaPuff&display=swap" rel="stylesheet">
13 </head>
14 <body class="container">
15     <h1 class="text-center">Tic Tac Toe</h1>
16     <br>
17     <div id="grid" class="container text-center">
18         <h3 id="info">Player X Start</h3>
19         <table class="table">
20             <tr>
21                 <td class="box" style="border-left: 0; border-top: 0" id="box1"></td>
22                 <td class="box" style="border-top: 0" id="box2"></td>
23                 <td class="box" style="border-top: 0; border-right: 0" id="box3"></td>
24             </tr>
25             <tr>
26                 <td class="box" style="border-left: 0; border-top: 0" id="box4"></td>
27                 <td class="box" style="border-top: 0" id="box5"></td>
28                 <td class="box" style="border-right: 0; border-top: 0" id="box6"></td>
29             </tr>
30             <tr>
31                 <td class="box" style="border-left: 0; border-bottom: 0; border-top: 0" id="box7"></td>
32                 <td class="box" style="border-bottom: 0; border-top: 0" id="box8"></td>
33                 <td class="box" style="border-right: 0; border-bottom: 0; border-top: 0" id="box9"></td>
34             </tr>
35         </table>
36     </div>
37     <br><br>
38     <button class="btn btn-outline-primary" id="button">Start Over</button>
39     <script src="index.js"></script>
40     <script src="node_modules/jquery/dist/jquery.js"></script>
41 </body>
42 </html>
```



# PROMINEO TECH

## CSS

```
<> index.html X # index.css M X JS index.js
# index.css > ...
1  h1 {
2      color: #0275d8;
3  }
4
5  /* Stylize grid boxes */
6  .box {
7      border: 1px solid #000;
8      font-size: 85px;
9      text-align: center;
10     line-height: 100px;
11     text-align: center;
12     width: 100px;
13     height: 100px;
14     color: #E33CC7;
15 }
16
17 .box:hover {
18     background-color: #F8F786;
19 }
20
21 body {
22     background-color: #F5F474;
23     font-family: 'DynaPuff', cursive;
24 }
25
26 #button {
27     margin:auto;
28     display:block;
29 }
30
31 |
32 .winner {
33     color: #FFAA47;
34 }
```



# PROMINEO TECH

JS

```
< index.html # index.css M JS index.js X
JS index.js > draw
1
2 // Set info from h3 element
3 var info = document.getElementById("info"),
4 // Select all tds in grid and call them boxes
5 boxes = document.querySelectorAll("#grid td"), X_or_0 = 0;
6
7 // Check for game winner
8 function checkWinner() {
9   let box1 = document.getElementById("box1"),
10   box2 = document.getElementById("box2"),
11   box3 = document.getElementById("box3"),
12   box4 = document.getElementById("box4"),
13   box5 = document.getElementById("box5"),
14   box6 = document.getElementById("box6"),
15   box7 = document.getElementById("box7"),
16   box8 = document.getElementById("box8"),
17   box9 = document.getElementById("box9");
18
19   if (box1.innerHTML !== "" && box1.innerHTML === box2.innerHTML && box1.innerHTML === box3.innerHTML)
20     highlightWin(box1, box2, box3);
21
22   if (box4.innerHTML !== "" && box4.innerHTML === box5.innerHTML && box4.innerHTML === box6.innerHTML)
23     highlightWin(box4, box5, box6);
24
25   if (box7.innerHTML !== "" && box7.innerHTML === box8.innerHTML && box7.innerHTML === box9.innerHTML)
26     highlightWin(box7, box8, box9);
27
28   if (box1.innerHTML !== "" && box1.innerHTML === box4.innerHTML && box1.innerHTML === box7.innerHTML)
29     highlightWin(box1, box4, box7);
30
31   if (box2.innerHTML !== "" && box2.innerHTML === box5.innerHTML && box2.innerHTML === box8.innerHTML)
32     highlightWin(box2, box5, box8);
33
34   if (box3.innerHTML !== "" && box3.innerHTML === box6.innerHTML && box3.innerHTML === box9.innerHTML)
35     highlightWin(box3, box6, box9);
36
37   if (box1.innerHTML !== "" && box1.innerHTML === box5.innerHTML && box1.innerHTML === box9.innerHTML)
38     highlightWin(box1, box5, box9);
39
40   if (box3.innerHTML !== "" && box3.innerHTML === box5.innerHTML && box3.innerHTML === box7.innerHTML)
41     highlightWin(box3, box5, box7);
42
```



# PROMINEO TECH

```
<> index.html x # index.css M JS index.js x
JS index.js > draw
42
43 // Determine draw
44 if (box1.childNodes.length !== 0 && box2.childNodes.length !== 0 && box3.childNodes.length !== 0 &&
45     box4.childNodes.length !== 0 && box5.childNodes.length !== 0 && box6.childNodes.length !== 0 &&
46     box7.childNodes.length !== 0 && box8.childNodes.length !== 0 && box9.childNodes.length !== 0)
47     draw();
48 }
49
50 // In result of a draw
51 function draw() {
52     info.innerHTML = "It's a draw";
53     $('#info').attr('class', 'alert alert-primary');
54 }
55
56 // Change color and announce winner of game
57 function highlightWin(a, b, c) {
58     a.classList.add('winner');
59     b.classList.add('winner');
60     c.classList.add('winner');
61     info.innerHTML = a.innerHTML + " is the winner!";
62     $('#info').attr('class', 'alert alert-primary');
63 }
64
65 // Add X or O in grid box when clicked, alternating
66 for (var i = 0; i < boxes.length; i++) {
67     boxes[i].onclick = function () {
68         if (this.innerHTML !== "X" && this.innerHTML !== "O") {
69             if (X_or_O % 2 === 0) {
70                 console.log(X_or_O);
71                 this.innerHTML = "X";
72                 info.innerHTML = "Player O Turn";
73                 checkWinner();
74                 X_or_O += 1;
75             } else {
76                 console.log(X_or_O);
77                 this.innerHTML = "O";
78                 info.innerHTML = "Player X Turn";
79                 checkWinner();
80                 X_or_O += 1;
81             }
82         }
83     };
84 }
85
86 // Start over button
87 document.getElementById('button').addEventListener('click', again);
88
89 function again() {
90     for (var i = 0; i < boxes.length; i++) {
91         boxes[i].classList.remove("winner");
92         boxes[i].innerHTML = "";
93         info.innerHTML = "Player X Start";
94         $('#info').attr('class', ' ');
95     };
96 }
```

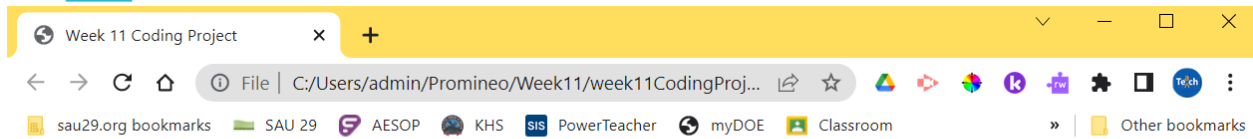


# PROMINEO TECH

**Screenshots of Running Application:**

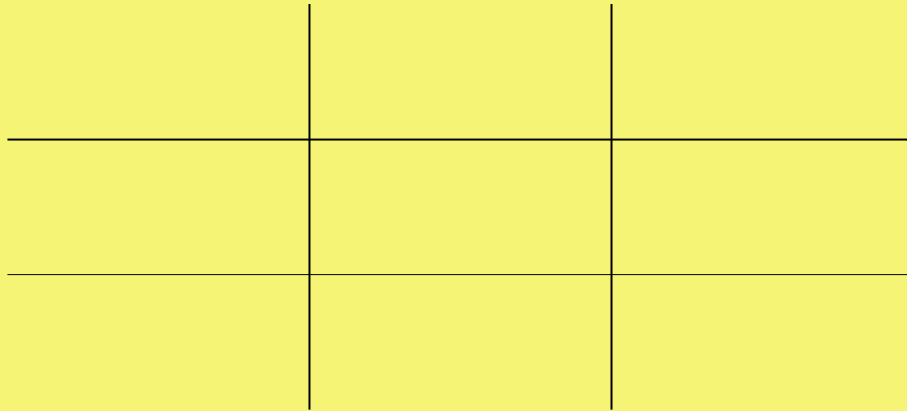


# PROMINEO TECH



## Tic Tac Toe

Player X Start

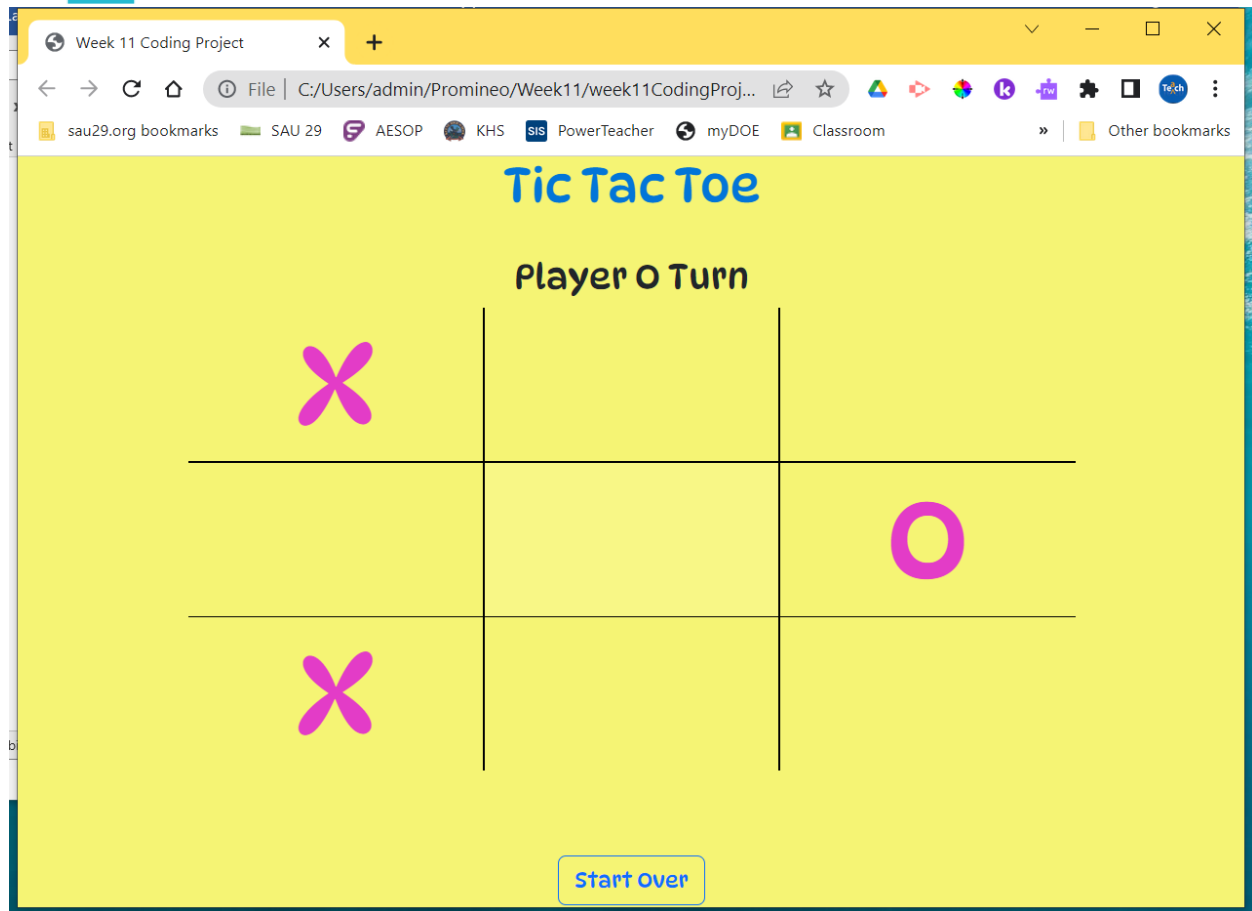


Start Over





# PROMINEO TECH





# PROMINEO TECH

Week 11 Coding Project

File | C:/Users/admin/Promineo/Week11/week11CodingProject/index....

sau29.org bookmarks | SAU 29 | AESOP | KHS | PowerTeacher | myDOE | Classroom | Typing.com | Other bookmarks

## Tic Tac Toe

X is the winner!

X		
O	X	O
X	O	X

Start Over



# PROMINEO TECH

Week 11 Coding Project

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## Tic Tac Toe

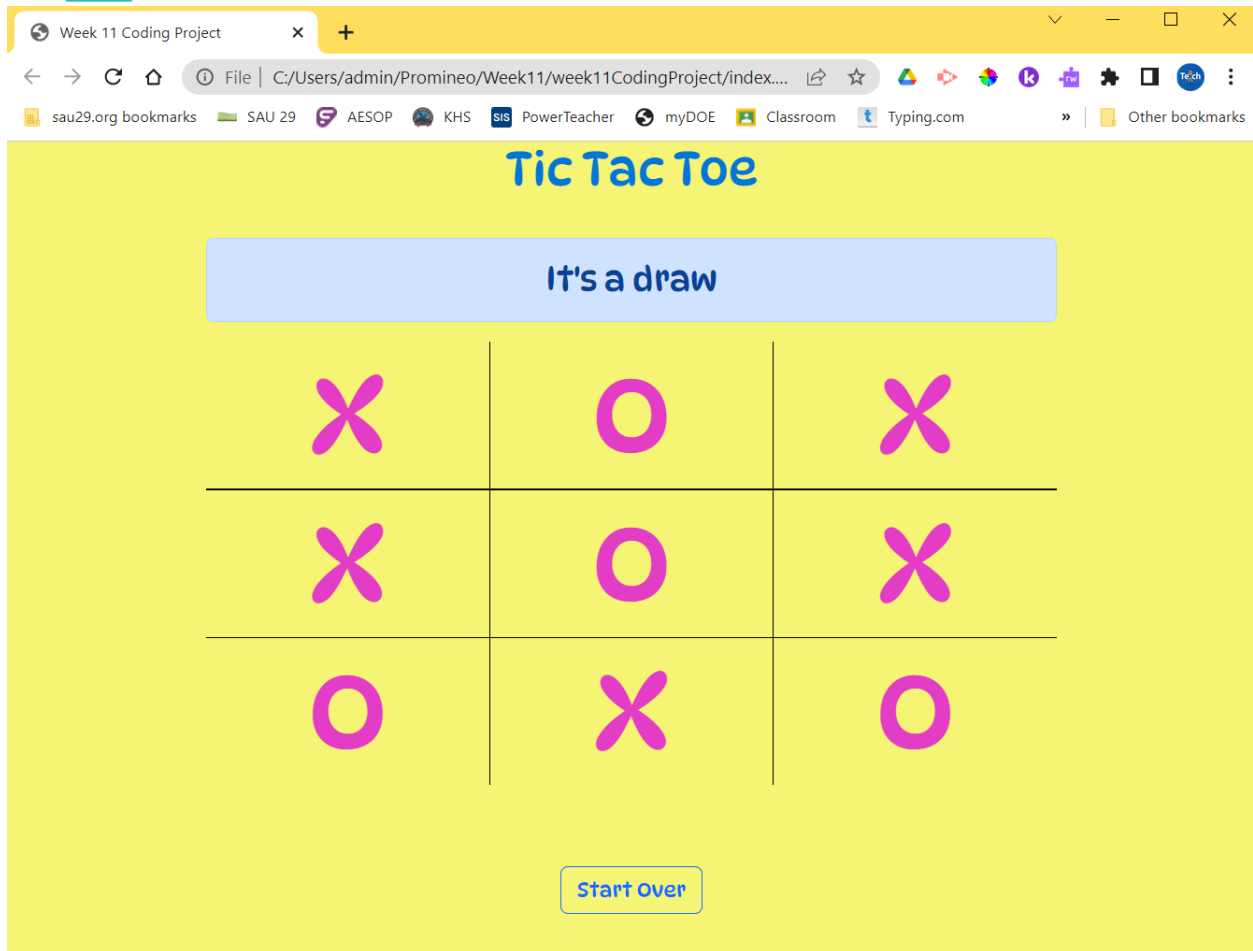
O is the winner!

X	X	
O	O	O
X	O	X

Start Over



# PROMINEO TECH



**URL to GitHub Repository:**

<https://github.com/dmoylan1/week11CodingProject.git>