Front End Technologies Week 5 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

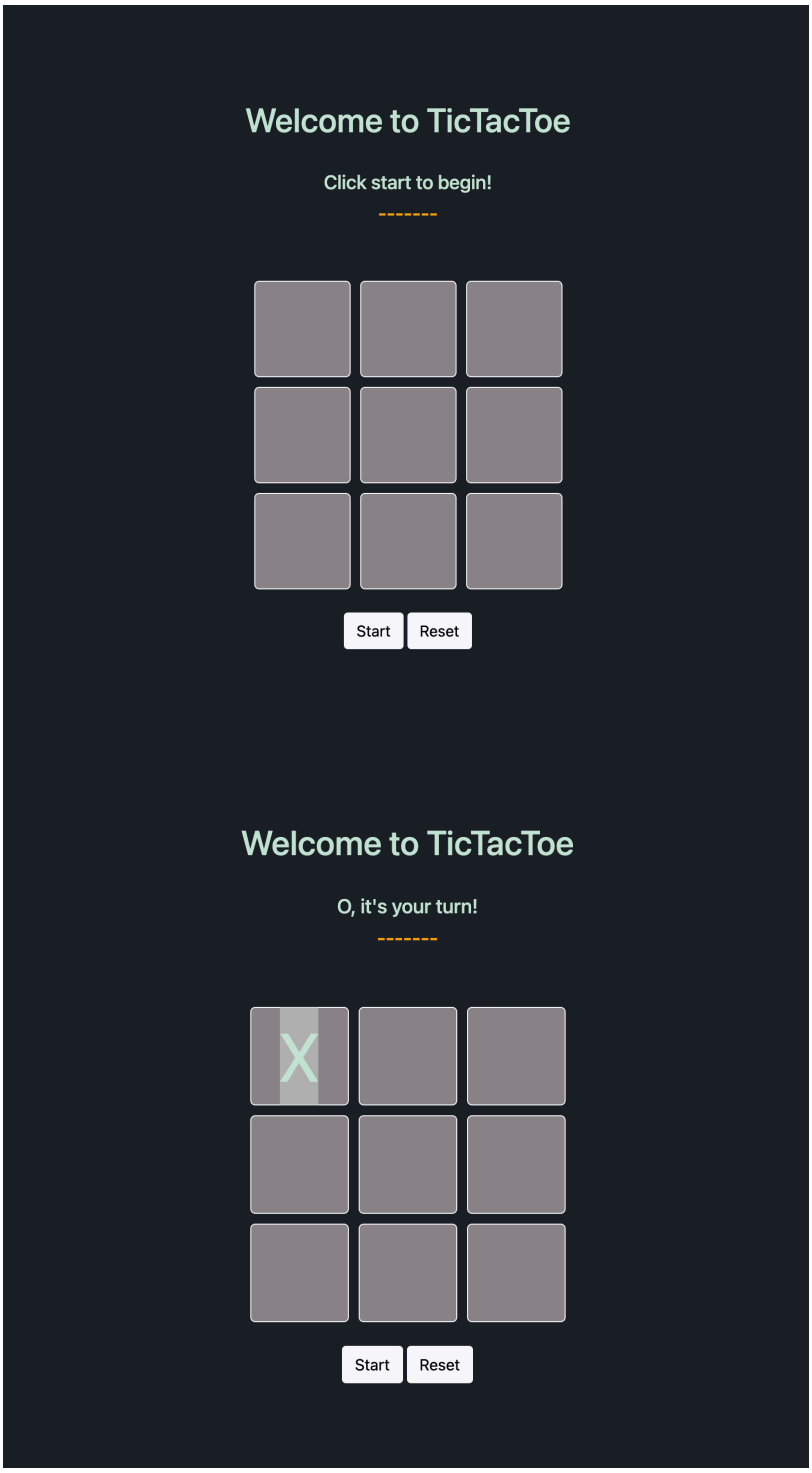
Instructions: In VS Code, or an IDE of your choice, write the code that accomplishes the objectives listed below. Ensure that the code compiles and runs as directed. Take screenshots of the code and of the running program (make sure to get screenshots of all required functionality) and paste them in 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 Running Code:



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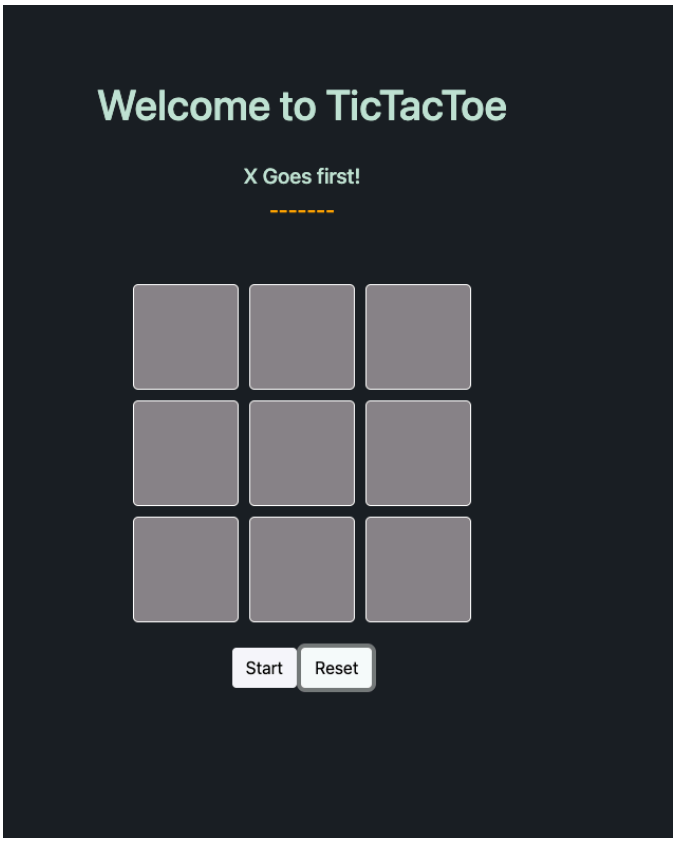
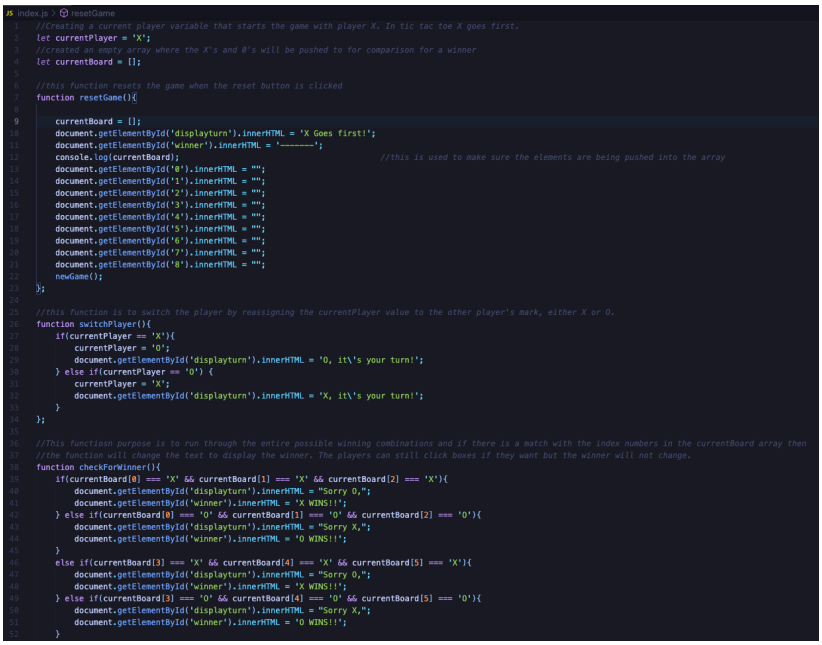


ScreenShots of Code:



```
//Creating a current player variable that starts the game with player X. In tic tac toe X goes first.
let currentPlayer = 'X';
//created an empty array where the X's and 0's will be pushed to for comparison for a winner
let currentBoard = [];

//this function resets the game when the reset button is clicked
function resetGame(){

    currentBoard = [];
    document.getElementById('displayturn').innerHTML = 'X Goes first!';
    document.getElementById('winner').innerHTML = '-------';
    console.log(currentBoard);                                  //this is used to make sure the elements are being pushed into the array
    document.getElementById('0').innerHTML = "";
    document.getElementById('1').innerHTML = "";
    document.getElementById('2').innerHTML = "";
    document.getElementById('3').innerHTML = "";
    document.getElementById('4').innerHTML = "";
    document.getElementById('5').innerHTML = "";
    document.getElementById('6').innerHTML = "";
    document.getElementById('7').innerHTML = "";
    document.getElementById('8').innerHTML = "";
    newGame();
};

//this function is to switch the player by reassigning the currentPlayer value to the other player's mark, either X or O.
function switchPlayer(){
    if(currentPlayer == 'X'){
        currentPlayer = '0';
        document.getElementById('displayturn').innerHTML = '0, it\'s your turn!';
    } else if(currentPlayer == '0') {
        currentPlayer = 'X';
        document.getElementById('displayturn').innerHTML = 'X, it\'s your turn!';
    }
};

//This functiosn purpose is to run through the entire possible winning combinations and if there is a match with the index numbers in the currentBoard array then
//the function will change the text to display the winner. The players can still click boxes if they want but the winner will not change.
function checkForWinner(){
    if(currentBoard[0] === 'X' && currentBoard[1] === 'X' && currentBoard[2] === 'X'){
        document.getElementById('displayturn').innerHTML = "Sorry O,";
        document.getElementById('winner').innerHTML = 'X WINS!!';
    } else if(currentBoard[0] === '0' && currentBoard[1] === '0' && currentBoard[2] === '0'){
        document.getElementById('displayturn').innerHTML = "Sorry X,";
        document.getElementById('winner').innerHTML = '0 WINS!!';
    }
    else if(currentBoard[3] === 'X' && currentBoard[4] === 'X' && currentBoard[5] === 'X'){
        document.getElementById('displayturn').innerHTML = "Sorry O,";
        document.getElementById('winner').innerHTML = 'X WINS!!';
    } else if(currentBoard[3] === '0' && currentBoard[4] === '0' && currentBoard[5] === '0'){
        document.getElementById('displayturn').innerHTML = "Sorry X,";
        document.getElementById('winner').innerHTML = '0 WINS!!';
    }
```

```
index.js    index.html    index.css
index.js > resetGame
        document.getElementById('winner').innerHTML = '0 WINS!!';
    }
    else if(currentBoard[6] === 'X' && currentBoard[7] === 'X' && currentBoard[8] === 'X'){
        document.getElementById('displayturn').innerHTML = "Sorry O,";
        document.getElementById('winner').innerHTML = 'X WINS!!';
    } else if(currentBoard[6] === '0' && currentBoard[7] === '0' && currentBoard[8] === '0'){
        document.getElementById('displayturn').innerHTML = "Sorry X,";
        document.getElementById('winner').innerHTML = '0 WINS!!';
    }
    else if(currentBoard[0] === 'X' && currentBoard[4] === 'X' && currentBoard[8] === 'X'){
        document.getElementById('displayturn').innerHTML = "Sorry O,";
        document.getElementById('winner').innerHTML = 'X WINS!!';
    } else if(currentBoard[0] === '0' && currentBoard[4] === '0' && currentBoard[8] === '0'){
        document.getElementById('displayturn').innerHTML = "Sorry X,";
        document.getElementById('winner').innerHTML = '0 WINS!!';
    }
    else if(currentBoard[2] === 'X' && currentBoard[4] === 'X' && currentBoard[8] === 'X'){
        document.getElementById('displayturn').innerHTML = "Sorry O,";
        document.getElementById('winner').innerHTML = 'X WINS!!';
    } else if(currentBoard[2] === '0' && currentBoard[4] === '0' && currentBoard[8] === '0'){
        document.getElementById('displayturn').innerHTML = "Sorry X,";
        document.getElementById('winner').innerHTML = '0 WINS!!';
    }
    else if(currentBoard[0] === 'X' && currentBoard[3] === 'X' && currentBoard[6] === 'X'){
        document.getElementById('displayturn').innerHTML = "Sorry O,";
        document.getElementById('winner').innerHTML = 'X WINS!!';
    } else if(currentBoard[0] === '0' && currentBoard[3] === '0' && currentBoard[6] === '0'){
        document.getElementById('displayturn').innerHTML = "Sorry X,";
        document.getElementById('winner').innerHTML = '0 WINS!!';
    }
    else if(currentBoard[1] === 'X' && currentBoard[4] === 'X' && currentBoard[7] === 'X'){
        document.getElementById('displayturn').innerHTML = "Sorry O,";
        document.getElementById('winner').innerHTML = 'X WINS!!';
    } else if(currentBoard[1] === '0' && currentBoard[4] === '0' && currentBoard[7] === '0'){
        document.getElementById('displayturn').innerHTML = "Sorry X,";
        document.getElementById('winner').innerHTML = '0 WINS!!';
    }
    else if(currentBoard[2] === 'X' && currentBoard[5] === 'X' && currentBoard[8] === 'X'){
        document.getElementById('displayturn').innerHTML = "Sorry O,";
        document.getElementById('winner').innerHTML = 'X WINS!!';
    } else if(currentBoard[2] === '0' && currentBoard[5] === '0' && currentBoard[8] === '0'){
        document.getElementById('displayturn').innerHTML = "Sorry X,";
        document.getElementById('winner').innerHTML = '0 WINS!!';
    }
};


//These functions handles the cell clicks and pushes the contents into the currentBoard array for comparison later. it also runs the checkWinner function and will also switch
function cellClick0(){
    document.getElementById('0').addEventListener('click', () => {
    document.getElementById('0').innerHTML = currentPlayer
```

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index.js ● index.html # index.css

index.js > resetGame

```
//These functions handles the cell clicks and pushes the contents into the currentBoard array for comparison later. it also runs
function cellClick0(){
    document.getElementById('0').addEventListener('click', () => {
    document.getElementById('0').innerHTML = currentPlayer
    document.getElementById('0').removeEventListener('click', cellClick0);
    currentBoard[0] = currentPlayer;
    checkForWinner();
    console.log(currentBoard);
    switchPlayer();
    });
}

function cellClick1(){
    document.getElementById('1').addEventListener('click', () => {
    document.getElementById('1').innerHTML = currentPlayer
    document.getElementById('1').removeEventListener('click', cellClick1);
    currentBoard[1] = currentPlayer;
    checkForWinner();
    console.log(currentBoard);
    switchPlayer();
    });
}

function cellClick2(){
    document.getElementById('2').addEventListener('click', () => {
    document.getElementById('2').innerHTML = currentPlayer
    document.getElementById('2').removeEventListener('click', cellClick2);
    currentBoard[2] = currentPlayer;
    checkForWinner();
    console.log(currentBoard);
    switchPlayer();
    });
}

function cellClick3(){
    document.getElementById('3').addEventListener('click', () => {
    document.getElementById('3').innerHTML = currentPlayer
    document.getElementById('3').removeEventListener('click', cellClick3);
    currentBoard[3] = currentPlayer;
    console.log(currentBoard);
    switchPlayer();
    });
}

function cellClick4(){
    document.getElementById('4').addEventListener('click', () => {
    document.getElementById('4').innerHTML = currentPlayer
    document.getElementById('4').removeEventListener('click', cellClick4);
    currentBoard[4] = currentPlayer;
    console.log(currentBoard);
    checkForWinner();
    switchPlayer();
    });
```

index.js ● index.html # index.css

index.js > resetGame

```
}

function cellClick5(){
    document.getElementById('5').addEventListener('click', () => {
    document.getElementById('5').innerHTML = currentPlayer
    document.getElementById('5').removeEventListener('click', cellClick5);
    currentBoard[5] = currentPlayer;
    console.log(currentBoard);
    checkForWinner();
    switchPlayer();
    });
}

function cellClick6(){
    document.getElementById('6').addEventListener('click', () => {
    document.getElementById('6').innerHTML = currentPlayer
    document.getElementById('6').removeEventListener('click', cellClick6);
    currentBoard[6] = currentPlayer;
    console.log(currentBoard);
    checkForWinner();
    switchPlayer();
    });
}

function cellClick7(){
    document.getElementById('7').addEventListener('click', () => {
    document.getElementById('7').innerHTML = currentPlayer
    document.getElementById('7').removeEventListener('click', cellClick7);
    currentBoard[7] = currentPlayer;
    console.log(currentBoard);
    checkForWinner();
    switchPlayer();
    });
}

function cellClick8(){
    document.getElementById('8').addEventListener('click', () => {
    document.getElementById('8').innerHTML = currentPlayer
    document.getElementById('8').removeEventListener('click', cellClick8);
    currentBoard[8] = currentPlayer;
    console.log(currentBoard);
    checkForWinner();
    switchPlayer();
    });
}


//This function sets everything up and turns on the event listeners so we can start playing the game.
function startGame(){
    document.getElementById('startgame').addEventListener('click', () => {
    document.getElementById('displayturn').innerHTML = 'X goes first!'
    document.getElementById('startgame').removeEventListener('click', startGame);
    document.getElementById('0').addEventListener('click', cellClick0);
```

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index.js ● index.html # index.css

index.js > resetGame

```
}

function cellClick8(){
    document.getElementById('8').addEventListener('click', () => {
    document.getElementById('8').innerHTML = currentPlayer
    document.getElementById('8').removeEventListener('click', cellClick8);
    currentBoard[8] = currentPlayer;
    console.log(currentBoard);
    checkForWinner();
    switchPlayer();
    });
}


//This function sets everything up and turns on the event listeners so we can start playing the game.
function startGame(){
    document.getElementById('startgame').addEventListener('click', () => {
    document.getElementById('displayturn').innerHTML = 'X goes first!'
    document.getElementById('startgame').removeEventListener('click', startGame);
    document.getElementById('0').addEventListener('click', cellClick0);
    document.getElementById('1').addEventListener('click', cellClick1);
    document.getElementById('2').addEventListener('click', cellClick2);
    document.getElementById('3').addEventListener('click', cellClick3);
    document.getElementById('4').addEventListener('click', cellClick4);
    document.getElementById('5').addEventListener('click', cellClick5);
    document.getElementById('6').addEventListener('click', cellClick6);
    document.getElementById('7').addEventListener('click', cellClick7);
    document.getElementById('8').addEventListener('click', cellClick8);
    });
    document.getElementById('resetgame').addEventListener('click', resetGame);

}

//this is the function we call to start the game.
function newGame(){
    startGame();
}

newGame();
```

index.js ● index.html × # index.css

index.html > html > body#wrapper.container > div#welcome > p#winner.h5

```
<!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>Tic Tac Toe</title>
    <link rel="stylesheet" href="index.css">
    <link rel="stylesheet" href="node_modules/bootstrap/dist/css/bootstrap.css"
</head>
<body class="container" id="wrapper">
    <div id="welcome">
        <h1>Welcome to TicTacToe</h1>
        <br>
        <p class="h5" id="displayturn">Click start to begin!</p>
        <p class="h5" id="winner">--------</p>
    </div>
    <div id="board">
            <div class="box" id="0"></div>
            <div class="box" id="1"></div>
            <div class="box" id="2"></div>
            <div class="box" id="3"></div>
            <div class="box" id="4"></div>
            <div class="box" id="5"></div>
            <div class="box" id="6"></div>
            <div class="box" id="7"></div>
            <div class="box" id="8"></div>
    </div>
        <br>
        <button type="button" class="btn btn-light" id="startgame">Start</button>
        <button type="button" class="btn btn-light" id="resetgame">Reset</button>


    <script src="node_modules/jquery/dist/jquery.js"></script>
    <script src="node_modules/bootstrap/dist/js/bootstrap.bundle.js"></script>
    <script src="index.js"></script>
</body>
</html>
```

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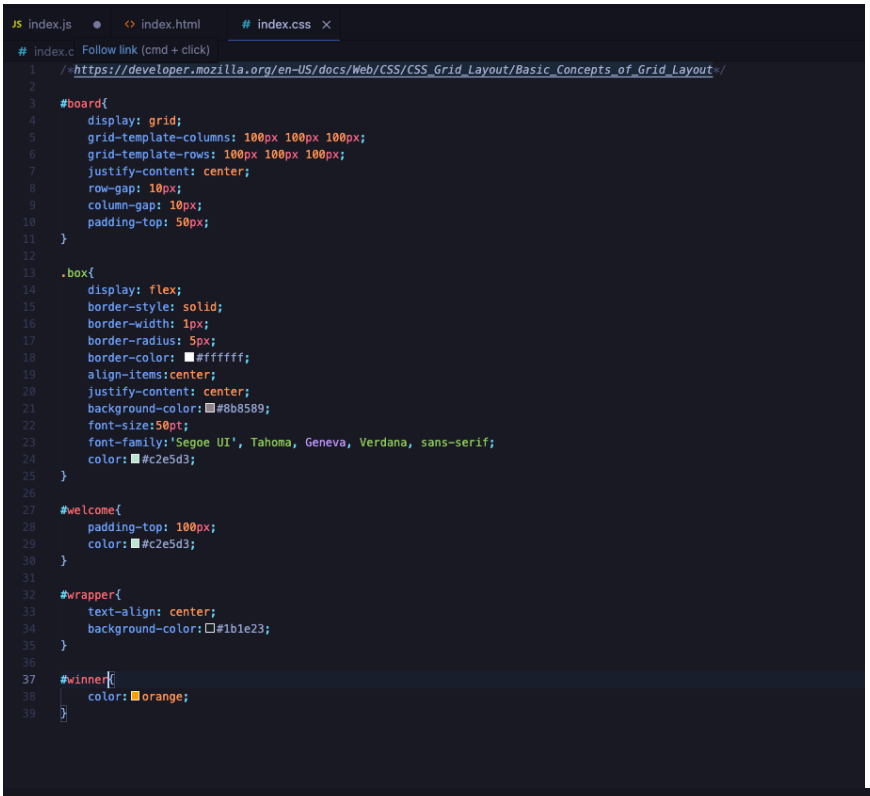

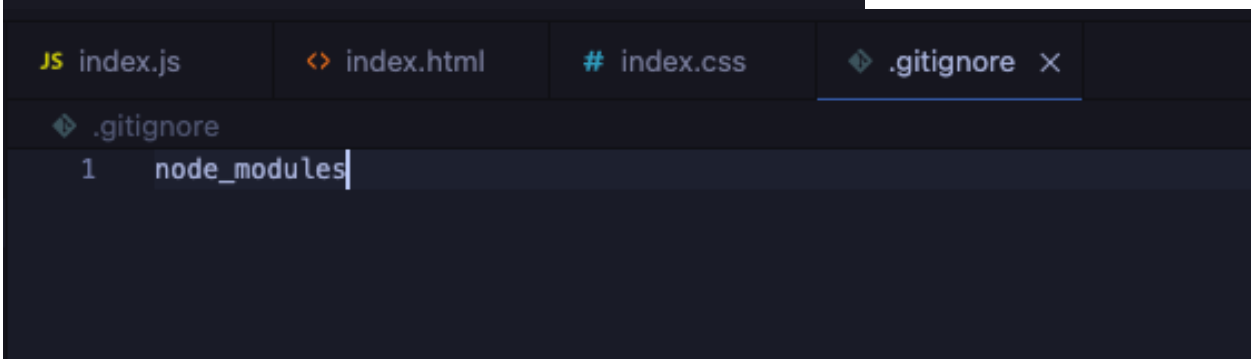

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GitHub Repository Link:

https://github.com/romanaragon/FET5_TicTacToe.git

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