Assignment 2 : JavaScript

Deadline
15th June, 23:59

Task `135 + 65 (Bonus)`

Designing the Tic-Tac-Toe Game

Build a classic Tic Tac Toe game
using HTML, CSS & JavaScript

1. Title `10`

a. Give an attractive title/subtitle at the top of the website. `5`

b. Use a suitable graphic/icon for your game and display it beside the title. `5`

2. Game Board `50 + 25 (Bonus)`

a. Use an indicator to show whose turn it is. `5`

b. Create a 3×3 grid with 9 empty squares and grid lines between them. On clicking them they display the current player's symbol (you can either use image or text to display X or O). `15`

c. Check the win condition and tie conditions after every move. Display the result and reset the board after 5 seconds. `20`

d. Implement a reset button to allow users to start a new game at any point of time. Display a modal warning that current game will reset and give option to reset or cancel. `10`

BONUS : Variable Board Sizes: Allow players to choose between different grid sizes, such as 3×3, 4×4, or 5×5. Make sure the winning condition for a N×N board is "N same symbols in a straight line". `25`

3. Scorecard   40 + 10 (Bonus)

a. Maintain a leaderboard of winning status between player 1 and player 2. Also allow users to reset the scores. Highlight the player leading.   `25`

b. Store the data in localStorage to retain the scores even after refreshing the page.   `15`

BONUS : Allow user to change their name from "Player 1/2" to any name of their choice.   `10`

4. Design / Implementation   35

a. You're free to decide upon the layout and design elements of your website yourself. This includes both the user experience while interacting with the website and the look and feel of the website. No need to be all showy, a minimalist design with simple animation is also enough. Bring out your creativity here. *[For this assignment, you're free to use CSS libraries such as Bootstrap]*   `15`

b. Design a responsive layout that works well on both desktop and mobile devices.   `10`

c. Code structure and Readability: Make sure your code is Reusable, Easy to read and follow the DRY (Don't Repeat Yourself) principle.   `10`

+ BONUS!   30

a. Solo Mode: This mode lets players play against the computer. Implementing it doesn't require a complex AI opponent; instead, you can have the computer make random moves. While it may not be as challenging as playing against a human opponent, it still offers a fun way to enjoy the game when playing alone.   `30`
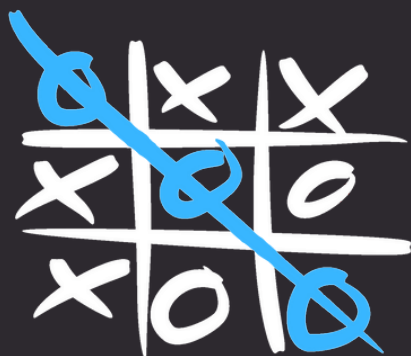
Resources

- Learn (Video) : freeCodeCamp
- Alternate video resource: Google Drive
- Reference: w3schools.com/js/
- Playlist: CodeWithHarry
- Tic-Tac-Toe Tutorial - GFG

Words of Advice

- Start by learning the basics of JavaScript. Understand simple concepts like variables, functions, loops, arrays and DOM manipulation. They'll be your trusty companions as you build your game. You can follow the tutorial given in the resources section or any other tutorial which you find helpful.

- Create helper functions for small operations you are going to perform such as clicking a button, marking X or O, checking if the current state is win, etc. This makes code easy to read and make changes.

- If you get stuck, don't shy away from Googling/ChatGPTing your problem. It too is a very important skill as a developer. But never blindly copy the code. Try to understand what is being done, and learn from it.

- And if you ever get lost along the way, don't hesitate to ask for help. With determination and a sprinkle of creativity, you'll soon triumph in crafting your very own Tic Tac Toe masterpiece!

Have fun! Be creative and express your vision through design. Happy Coding!

KEEP HUSTLING!