JavaScript Game, Sokoban   Front-End Development

You are going to create a simple JavaScript game, based on the game called "Sokoban".

The first task is to create the game board itself. You will be given an array of characters that represents a tile-based map. Your task is to take that character array, and turn it into a grid of html elements that can be used to represent the map, that the player can then move around inside.

The second part of making the game is to create functions to be able to move your player through the game using the arrow keys on the keyboard. The game should respond to inputs without the normal behavior of the arrow keys (i.e. scrolling in the web page).

Required Features:

- Create functions to get the keypresses to move your player, up, down, left and right.
- Create tile-based objects to present different kind of things.
- Create a grid of html elements to build the tile-based map
- A grid of html elements representing a tile-based game board
- A player object that can move between the tiles of the board.
    1. Walls should stop the player
- Movable blocks that can be pushed by the player into empty spaces.
    1. The game should end once all blocks have been pushed into the right spaces on the game board.
- You are NOT allowed to use Canvas.

Code Requirements:

- You must use event listeners to handle key presses to make the player move.
    1. The key press event listener should be able to handle the up, down, left and right arrow keys
    2. The normal effect of those keys should be suppressed, to make sure that the page does not scroll when you press them.
- The grid map must be made up of html elements created through JavaScript commands.
    1. The player and blocks should be represented by html elements.

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Resources:

- http://www.w3schools.com/js/ - W3Schools JavaScript Reference
- https://app.pluralsight.com/paths/skill/building-websites-with-html-css-and-javascript - Javascript och HTML
- http://sokoban.info/ - A example of the game in action

Subjects Covered:

- JavaScript interaction with HTML
    1. Creating and modifying elements
    2. Event listeners tied to the HTML document object model.
    3. Making an interactive JavaScript / HTML application

Tips:

- Use CSS to present the different types of tiles on the map (Ex. .player .wall).
- Store the players X & Y position in global variables.
- Use the multidimensional map array index´s as X & Y coordinates and assign them as id´s on the html elements in the map (Ex. id="x3y7").
- Build order:
    1. Create html page.
    2. Link in the SokobanBase.js file.
    3. Link in your CSS and JS files.
    4. Create a element with a id to contain your map.
    5. Create a function to generate the elements that will represent the tiles from the map array.
        - Give them a id and CSS.
        - Append them into your map element.
    6. Use an event to listen for key presses on the key board and make it run a function arrowKeys.
    7. Function arrowKeys will check if it was a arrow key that was pressed and if so run a movePlayer function.
        - Send in the change in X & Y coordinates (Ex. ← = X -1, Y 0).
        - Use the player coordinates and the change coordinates to find the element the player wants to move to.
        - Update CSS to move the player around the map.
    8. Start adding one rules at the time for if the player can move or not.