

Assignment

1) You are tasked with creating a web page that allows users to input a list of numbers and displays the square of each number using the **map()** function. Your implementation should use HTML and JavaScript with DOM manipulation.

Here are the requirements for the web page:

1. The user should be able to input a list of numbers in a text area.
2. When the user clicks a button labeled "Square", the input should be processed using the **map()** function to calculate the square of each number.
3. The squares should be displayed below the input area, with each square on a separate line.
4. If the user enters an invalid input, such as a non-numeric character or an empty string, an error message should be displayed instead of the squares.

To complete this assignment, you should create an HTML file that includes the necessary HTML elements and a JavaScript file that implements the functionality described above using DOM manipulation and the **map()** function.

2) You are tasked with creating a web page that displays a list of people and their ages using the **map()** function. Your implementation should use HTML and JavaScript with DOM manipulation.

Here are the requirements for the web page:

1. You should create an array of objects, where each object represents a person and has the properties "name" and "age".
2. You should create an HTML unordered list (****) element that will display the names and ages of the people.

3. Using the **map()** function, you should iterate over the array of objects and create an HTML list item (****) element for each person.
4. For each person, the list item should display the person's name and age in the format "Name: [name], Age: [age]".
5. The list of people should be displayed below a heading that says "People and Their Ages".

To complete this assignment, you should create an HTML file that includes the necessary HTML elements and a JavaScript file that implements the functionality described above using DOM manipulation and the **map()** function

3) You are tasked with creating a web page that displays a list of products and their prices, and allows users to filter the list by category. Your implementation should use HTML and JavaScript with DOM manipulation.

Here are the requirements for the web page:

1. You should create an array of objects, where each object represents a product and has the properties "name", "category", and "price".
2. You should create an HTML table element that will display the list of products.
3. Using the **createElement()** function and other DOM manipulation methods, you should dynamically create and populate the table rows and cells to display the product data.
4. For each product, the table row should display the product's name, category, and price in separate cells.
5. You should create a select element (**<select>**) that allows users to choose a category to filter the list of products.
6. Using the **filter()** function, you should update the table to only display products that match the selected category.
7. If the user selects "All" in the category filter, the table should display all products.

To complete this assignment, you should create an HTML file that includes the necessary HTML elements and a JavaScript file that implements the functionality described above using DOM manipulation.