

Task: "Product Registration Form with Dynamic Table"

Objective:

Create a **Product Registration Form** where users can add products with details such as **name**, **description**, **price**, **category**, and **availability** status. After adding a product, it should be displayed in a dynamic table below the form. The table should have an **Edit** and **Delete** option for each product. The **Edit** option should populate the form with the product data, and the **Save** button should change to an **Update** button. The **Delete** option should remove the product from the table.

Requirements:

1. Create a Product Registration Form:

- a. The form should include the following fields:
 - i. **Product Name** (text input)
 - ii. **Description** (text input)
 - iii. **Price** (number input)
 - iv. **Category** (dropdown with options)
 - v. **Availability** (checkbox)
- b. Add a "**Submit**" button labeled "**Add Product**".

2. Validate the Form Inputs:

- a. Ensure the following validations before submitting the form:
 - i. **Product Name** cannot be empty.
 - ii. **Description** cannot be empty.
 - iii. **Price** should be a positive number.
 - iv. **Category** should be selected.
 - v. **Availability** should be checked (if the product is available).

3. Display the Added Product in a Table:

- a. Once the product is successfully added, a new row should appear in the table with the following columns:
 - i. **Product Name**
 - ii. **Description**
 - iii. **Price**
 - iv. **Category**
 - v. **Availability** (display whether the product is available or not)

vi. **Actions** (Edit, Delete buttons)

4. Edit Functionality:

- a. When the **Edit** button is clicked, the form should be populated with the current product's data.
- b. The "**Add Product**" button should change to "**Update Product**".
- c. When the **Update Product** button is clicked, the product details should be updated in the table.

5. Delete Functionality:

- a. When the **Delete** button is clicked, the product should be removed from the table.

6. Search Functionality:

- a. Add a **search bar** above the table that allows users to search by **Product Name** or **Category**.
- b. The table should display only the products that match the search criteria.

7. Bonus:

- a. Add a filter to display products by **Category**.
 - i. The filter should be a dropdown that allows users to select a category to view only products belonging to that category.

Deliverables:

- **HTML, CSS, and JavaScript code** that implements the form, table, edit, delete, search, and filter functionalities.
- The **JavaScript code** should handle form validation, dynamic table updates, and edit/delete actions.

Important Notes:

- Ensure that you **validate the form inputs** before adding the product to the table.
- Use **addEventListener** for event handling, such as form submission, button clicks, and search/filter functionality.
- **Dynamic Table** updates should happen using JavaScript (without reloading the page).

- Remember to use **localStorage** or any other data storage method if required to persist the data after page reload (optional).

Good Luck! 