**Job Simulation: Product List with Filter**

**Project Title:**

Implementation of a React Product List with Category Filter

**Role:**

Front-End Development Intern

**Technology Stack:**

React, JSX, CSS

**Objective:**

To design and implement a dynamic product list interface in React that displays product cards, allows category-based filtering, and utilizes props, conditional rendering, and modular components — all structured using a vertical layout instead of a grid.

**Task Overview:**

As part of this advanced task, you will create a vertically listed product UI that receives product data via props, implements category-based filtering, and conditionally renders results based on the selected filter.

**Task Requirements:**

**1. Functionality:**

* Display a list of products in the parent component and pass it down via props.
* Enable filtering by category (Electronics, Books, Clothing).
* Use the .filter() method to show only products matching the selected category.
* Show a fallback message if no products are available for the selected category.
* Each product card must display the following details:
  + Title
  + Price
  + Category
  + Rating

**2. User Interface (UI):**

* Use a **vertical list** (not a grid layout) to display product cards.
* Style each card with padding and border for clear separation.
* Apply different background colors based on category:
  + **Electronics**: #FFE5B4
  + **Books**: #E6E6FA
  + **Clothing**: #D0F0C0
* Include a header and filter controls (buttons or dropdown) to switch between categories.

**3. Code Structure:**

* **App.jsx** – Contains the product data and manages selected category state.
* **FilterMenu.jsx** – Displays the filter buttons or dropdown UI for selecting categories.
* **ProductList.jsx** – Filters and maps the product list based on the selected category.
* **ProductCard.jsx** – Displays individual product details in a styled card layout.

Include comments in ProductList.jsx (2–3 lines) explaining how .filter() is used to narrow down the product list and how props are passed down to child components.

**Bonus Features (Optional):**

* Show product count per category next to the filter.
* Highlight products with a **rating greater than 4** (e.g., with a star or background color).
* Add a **"Reset Filter"** button to display all products again.
* Display an **“Out of Stock”** badge for unavailable products (if applicable).

**Deliverables:**

Submit a project folder that includes the following components:

* App.jsx – State and product data handler
* FilterMenu.jsx – UI controls for category filtering
* ProductList.jsx – Dynamically renders the filtered product list
* ProductCard.jsx – Renders individual product details
* style.css – Includes styles for layout, categories, and components

**Learning Outcomes:**

* Proficient use of .filter() and .map() in React
* Dynamic UI rendering using **props**
* Understanding of **conditional rendering** in React
* Ability to design a clean, responsive **vertical layout** with category-based UI logic







