Test Case ID	Test Scenario	Steps	Expected Outcome	Status
TC-001	Add a valid product	1. Open app 2. Enter details 3. Click Add	Product appears in the catalog and can be searched for	Pending
TC-002	Add a product with missing fields	1. Open app 2. Leave some fields empty 3. Click Add	Show error message and prevent addition	Pending
TC-003	Add duplicate product	1. Enter the same product twice 2. Click Add	Show error message and prevent addition	Pending
TC-004	Load products on startup	1. Open app	All previously saved products should appear	Pending
TC-005	Display empty catalog	1. Delete all products from JSON file 2. Open app	UI should display a message like "No current products"	Pending
TC-006	Edit an existing product	1. Select a product 2. Click Edit 3. Modify details 4. Click Save	Product details update in UI and JSON file	Pending
TC-007	Edit product with invalid input	1. Select a product 2. Click Edit 3. Enter invalid values (e.g., negative price) 4. Click Save	Show validation error	Pending
TC-008	Delete a product	1. Select a product 2. Click Delete	Product is removed from UI and JSON file	Pending
TC-010	Verify data persistence	1. Add products 2. Restart the app	Products should still be there	Pending
TC-011	Corrupt JSON file handling	1. Manually edit JSON file and insert invalid data 2. Restart app	Show error message or default to empty catalog	Pending
TC-012	Responsive UI test	Resize window, minimize, maximize	UI elements adjust properly	Pending
TC-013	Button click feedback	Click Add, Edit, Delete	Buttons provide visual feedback (e.g., highlight)	Pending
TC-014	Search for an existing product	1. Open app 2. Type product name in the search bar	Only matching products appear in the list	Pending
TC-015	Search for a non-existent product	1. Open app 2. Type a product name that does not exist	Display "No results found" message	Pending
TC-016	Case-insensitive search	1. Open app 2. Type the product name in lowercase/uppercase	Results should appear regardless of case	Pending
TC-017	Search by partial keyword	1. Open app 2. Enter part of a product name	All products containing that keyword appear	Pending
TC-018	Filter by category	1. Select a category from filter 2. Click Filter	Only products in the selected category appear	Pending
TC-019	Filter by price range	1. Set a min & max price range 2. Click Apply Filter	Only products within the range appear	Pending
TC-020	Fiter by brand	1. Select a brand from filter 2. Click Apply Filter	Only products from selected brand appear	Pending
TC-021	Filter with no matching results	1. Select a category with no products 2. Click Filter	Display "No results found" message	Pending
TC-022	1. Click Clear Filters	All products reappear	Pending	Pending