

Table Schema: Product Table

Let's create a new table called **Product** to perform various CRUD and query operations.

Product Table Structure:

ProductID (PK)	ProductName	Category	Price	StockQuantity	Supplier
1	Laptop	Electronics	70000	50	TechMart
2	Office Chair	Furniture	5000	100	HomeComfort
3	Smartwatch	Electronics	15000	200	GadgetHub
4	Desk Lamp	Lighting	1200	300	BrightLife
5	Wireless Mouse	Electronics	1500	250	GadgetHub

Tasks:

1. CRUD Operations:

- Add a new product:**
 - Insert a product named "**Gaming Keyboard**" under the "**Electronics**" category, priced at **3500**, with **150** units in stock, supplied by "**TechMart**".
 - Update product price:**
 - Increase the price of all **Electronics** products by **10%**.
 - Delete a product:**
 - Remove the product with the **ProductID = 4** (Desk Lamp).
 - Read all products:**
 - Display all products sorted by **Price** in **descending order**.
-

2. Sorting and Filtering:

- Sort products by stock quantity:**
 - Display the list of products sorted by **StockQuantity** in **ascending order**.
 - Filter products by category:**
 - List all products belonging to the **Electronics** category.
 - Filter products with AND condition:**
 - Retrieve all **Electronics** products priced **above 5000**.
 - Filter products with OR condition:**
 - List all products that are either **Electronics** or priced **below 2000**.
-

3. Aggregation and Grouping:

- Calculate total stock value:**
 - Find the **total stock value** (Price * StockQuantity) for all products.
- Average price of each category:**
 - Calculate the **average price** of products grouped by **Category**.

11. Total number of products by supplier:

- o Count the total number of products supplied by **GadgetHub**.
-

4. Conditional and Pattern Matching:

12. Find products with a specific keyword:

- Display all products whose **ProductName** contains the word **"Wireless"**.

13. Search for products from multiple suppliers:

- Retrieve all products supplied by either **TechMart** or **GadgetHub**.

14. Filter using BETWEEN operator:

- List all products with a **price between 1000 and 20000**.
-

5. Advanced Queries:

15. Products with high stock:

- o Find products where **StockQuantity** is greater than the **average stock quantity**.

16. Get top 3 expensive products:

- o Display the **top 3 most expensive products** in the table.

17. Find duplicate supplier names:

- o Identify any duplicate supplier names in the table.

18. Product summary:

- o Generate a summary that shows each **Category** with the **number of products** and the **total stock value**.
-

6. Join and Subqueries (if related tables are present):

19. Supplier with most products:

- o Find the **supplier** who provides the **maximum number of products**.

20. Most expensive product per category:

- o List the **most expensive product** in each category.