

## Assignment Title: Retail Store Inventory Management System

### Objective:

Build a console-based application using **HashMap** to manage products in a retail store.

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### Requirements:

#### 1. Entities:

- Product: with fields productId, name, category, price, and quantity

#### 2. Use HashMap to:

- Store products with productId as the key
- Perform operations like add, update, delete, and search

Java

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### Functional Requirements:

1. Add a Product
  2. Update Product Details (price, quantity)
  3. Delete a Product
  4. Search Product by ID
  5. List All Products
  6. List Products by Category
  7. Find Product with Highest Quantity
  8. Calculate Total Inventory Value
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### Sample Operations:

Java

```
inventory.put("P101", new Product("P101", "Keyboard", "Electronics", 1200.0, 15));
```

```
inventory.get("P101").setQuantity(20);
```

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### Bonus Challenges:

- Use TreeMap to sort products by ID

- Use Comparator to sort by price or quantity
  - Use LinkedHashMap to maintain insertion order
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