

Assignment Title: Retail Store Inventory Management System

Objective:

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

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

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);
```

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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