**Exercise 1: Inventory Management System**

import java.util.HashMap;

import java.util.Map;

public class Main {

    public static void main(String[] args) {

        Inventory inventory = new Inventory();

        inventory.addProduct(new Product("P001", "Keyboard", 50, 799.0));

        inventory.addProduct(new Product("P002", "Mouse", 100, 399.0));

        inventory.displayAll();

        inventory.updateProduct("P001", 60, 750.0);

        inventory.deleteProduct("P002");

        System.out.println("\nAfter update and delete:");

        inventory.displayAll();

    }

}

class Product {

    private String productId;

    private String productName;

    private int quantity;

    private double price;

    public Product(String productId, String productName, int quantity, double price) {

        this.productId = productId;

        this.productName = productName;

        this.quantity = quantity;

        this.price = price;

    }

    public String getProductId() {

        return productId;

    }

    public void setQuantity(int quantity) {

        this.quantity = quantity;

    }

    public void setPrice(double price) {

        this.price = price;

    }

    public String toString() {

        return "[" + productId + "] " + productName + " - Qty: " + quantity + ", Price: ₹" + price;

    }

}

class Inventory {

    private Map<String, Product> products = new HashMap<>();

    public void addProduct(Product product) {

        products.put(product.getProductId(), product);

        System.out.println("Product added: " + product.getProductId());

    }

    public void updateProduct(String productId, int newQty, double newPrice) {

        Product product = products.get(productId);

        if (product != null) {

            product.setQuantity(newQty);

            product.setPrice(newPrice);

            System.out.println("Product updated: " + productId);

        } else {

            System.out.println("Product not found: " + productId);

        }

    }

    public void deleteProduct(String productId) {

        if (products.remove(productId) != null) {

            System.out.println("Product deleted: " + productId);

        } else {

            System.out.println("Product not found: " + productId);

        }

    }

    public void displayAll() {

        for (Product product : products.values()) {

            System.out.println(product);

        }

    }

}

Output:

