**Exercise 1: Inventory Management System**

import java.util.\*;

public class InventoryManagementSystem {

// Product class

static class Product {

int productId;

String productName;

int quantity;

double price;

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

this.productId = productId;

this.productName = productName;

this.quantity = quantity;

this.price = price;

}

public void display() {

System.out.println("ID: " + productId + ", Name: " + productName +

", Qty: " + quantity + ", Price: ₹" + price);

}

}

// Inventory class using HashMap

static class Inventory {

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

public void addProduct(Product product) {

if (products.containsKey(product.productId)) {

System.out.println("Product already exists. Use update instead.");

} else {

products.put(product.productId, product);

System.out.println("Product added.");

}

}

public void updateProduct(int productId, String name, int quantity, double price) {

Product product = products.get(productId);

if (product != null) {

product.productName = name;

product.quantity = quantity;

product.price = price;

System.out.println("Product updated.");

} else {

System.out.println("Product not found.");

}

}

public void deleteProduct(int productId) {

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

System.out.println("Product deleted.");

} else {

System.out.println("Product not found.");

}

}

public void displayInventory() {

if (products.isEmpty()) {

System.out.println("Inventory is empty.");

} else {

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

p.display();

}

}

}

}

// Main method to test

public static void main(String[] args) {

Inventory inventory = new Inventory();

inventory.addProduct(new Product(101, "Monitor", 10, 8999.99));

inventory.addProduct(new Product(102, "Keyboard", 25, 799.50));

inventory.displayInventory();

System.out.println("\nUpdating product 101:");

inventory.updateProduct(101, "Monitor", 12, 8799.00);

inventory.displayInventory();

System.out.println("\nDeleting product 102:");

inventory.deleteProduct(102);

inventory.displayInventory();

}

}

OUTPUT :

A screenshot of a computer program

AI-generated content may be incorrect.