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import java.util.*;
import java.util.Scanner;
import java.util.ArrayList;
import java.util.HashMap;
import java.util.HashSet;
import java.util.TreeSet;

class Customer {
    String customerId;
    String name;

    public Customer(String customerId, String name) {
        this.customerId = customerId;
        this.name = name;
    }

    @Override
    public String toString() {
        return "Customer{" +
            "customerId='" + customerId + '\'' +
            ", name='" + name + '\'' +
            '}';
    }
}

class Product {
    String productId;
    String name;

    public Product(String productId, String name) {
        this.productId = productId;
        this.name = name;
    }

    @Override
    public String toString() {
        return "Product{" +
            "productId='" + productId + '\'' +
            ", name='" + name + '\'' +
            '}';
    }
}

class Order {
    String orderId;
    Customer customer;
    ArrayList<Product> products;
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    public Order(String orderId, Customer customer, ArrayList<Product>
products) {
        this.orderId = orderId;
        this.customer = customer;
        this.products = products;
    }

    @Override
    public String toString() {
        return "Order{" +
            "orderId='" + orderId + '\'' +
            ", customer=" + customer +
            ", products=" + products +
            '}';
    }
}

public class lab7 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        ArrayList<Customer> customers = new ArrayList<>();
        ArrayList<Product> products = new ArrayList<>();
        ArrayList<Order> orders = new ArrayList<>();

        HashMap<String, Customer> customerMap = new HashMap<>();
        HashMap<String, Product> productMap = new HashMap<>();

        HashSet<Product> uniqueProducts = new HashSet<>();

        TreeSet<Customer> sortedCustomers = new TreeSet<>((c1, c2) ->
c1.name.compareTo(c2.name));
        TreeSet<Product> sortedProducts = new TreeSet<>((p1, p2) ->
p1.name.compareTo(p2.name));

        System.out.println("Welcome to Amazon CRM System!");

        // Rest of the code remains unchanged.
        // Taking user input for customers
        System.out.print("Enter the number of customers: ");
        int numCustomers = scanner.nextInt();
        scanner.nextLine(); // Consume the newline character

        for (int i = 0; i < numCustomers; i++) {
            System.out.print("Enter customer ID: ");
            String customerId = scanner.nextLine();

            System.out.print("Enter customer name: ");

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        String customerName = scanner.nextLine();

        Customer customer = new Customer(customerId, customerName);
        customers.add(customer);
        customerMap.put(customerId, customer);
    }

    // Taking user input for products
    System.out.print("Enter the number of products: ");
    int numProducts = scanner.nextInt();
    scanner.nextLine(); // Consume the newline character

    for (int i = 0; i < numProducts; i++) {
        System.out.print("Enter product ID: ");
        String productId = scanner.nextLine();

        System.out.print("Enter product name: ");
        String productName = scanner.nextLine();

        Product product = new Product(productId, productName);
        products.add(product);
        productMap.put(productId, product);
    }

    // Taking user input for orders
    System.out.print("Enter the number of orders: ");
    int numOrders = scanner.nextInt();
    scanner.nextLine(); // Consume the newline character

    for (int i = 0; i < numOrders; i++) {
        System.out.print("Enter order ID: ");
        String orderId = scanner.nextLine();

        System.out.print("Enter customer ID for the order: ");
        String customerOrderId = scanner.nextLine();
        Customer orderCustomer = customerMap.get(customerOrderId);

        System.out.print("Enter the number of products in the order: ");
        int numOrderProducts = scanner.nextInt();
        scanner.nextLine(); // Consume the newline character

        ArrayList<Product> orderProducts = new ArrayList<>();
        for (int j = 0; j < numOrderProducts; j++) {
            System.out.print("Enter product ID for product " + (j + 1) +
": ");

            String productOrderId = scanner.nextLine();
            Product orderProduct = productMap.get(productOrderId);
            orderProducts.add(orderProduct);

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    }

    Order order = new Order(orderId, orderCustomer, orderProducts);
    orders.add(order);
}

// Displaying information
System.out.println("\nCustomer Information: " + customers);
System.out.println("Product Information: " + products);
System.out.println("Order Information: " + orders);

System.out.println("\nCustomer Map: " + customerMap);
System.out.println("Product Map: " + productMap);

System.out.println("\nUnique Products: " +
uniqueProducts.addAll(products));

System.out.println("\nSorted Customers: " +
sortedCustomers.addAll(customers));
System.out.println("Sorted Products: " +
sortedProducts.addAll(products));

}
}
```