```
package com.wipro.io;

import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.ResultSetMetaData;
import java.sql.Statement;
import java.util.ArrayList;
import java.util.List;

public class ProductDAO {

    private Connection getConnection() throws Exception {
        Class.forName("oracle.jdbc.OracleDriver");
        return
DriverManager.getConnection("jdbc:oracle:thin:@localhost:9501/XE","system","rps@123");
    }

    public void addProduct(int id, String name, int price) throws Exception {
        Connection con = getConnection();
        PreparedStatement pst = con.prepareStatement("insert into product values(?,?,?)");
        pst.setInt(1, id);
        pst.setString(2, name);
        pst.setInt(3, price);
        pst.execute();
        pst.close();
        con.close();
    }

    public void updateProduct(int id, String name, int price) throws Exception {
        Connection con = getConnection();
        PreparedStatement pst = con.prepareStatement("update product set name=?, price=?
where id=?");
        pst.setString(1, name);
        pst.setInt(2, price);
        pst.setInt(3, id);
        pst.executeUpdate();
        pst.close();
        con.close();
    }

    public void deleteProduct(int id) throws Exception {
        Connection con = getConnection();
```

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        PreparedStatement pst = con.prepareStatement("delete from product where id=?");
        pst.setInt(1, id);
        pst.executeUpdate();
        pst.close();
        con.close();
    }

    public List<String> listProducts() throws Exception {
        List<String> productList = new ArrayList<>();
        Connection con = getConnection();
        Statement st = con.createStatement();
        ResultSet rs = st.executeQuery("select * from product");
        ResultSetMetaData rsmd = rs.getMetaData();
        StringBuilder header = new StringBuilder();
        for(int i = 1; i <= rsmd.getColumnCount(); i++) {
            header.append(rsmd.getColumnName(i)).append("  ");
        }
        productList.add(header.toString());

        while(rs.next()) {
            productList.add(rs.getString(1) + "  " + rs.getString(2) + "  " + rs.getString(3));
        }
        rs.close();
        st.close();
        con.close();
        return productList;
    }
}
```

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```
package com.wipro.io;

import java.util.List;
import java.util.Scanner;

public class JdbcDemo2 {
    public static void main(String[] args) throws Exception {
        ProductDAO dao = new ProductDAO();
        Scanner sc = new Scanner(System.in);

        System.out.println("Enter option: 1. Add Product 2. Update Product 3. Delete Product 4.
List Products");
```

```
        int option = sc.nextInt();
        switch(option) {
            case 1:
                System.out.println("Enter product details (id, name, price):");
                int id = sc.nextInt(); sc.nextLine();
                String name = sc.nextLine();
                int price = sc.nextInt();
                dao.addProduct(id, name, price);
                break;
            case 2:
                System.out.println("Enter product id to update:");
                id = sc.nextInt(); sc.nextLine();
                System.out.println("Enter new name:");
                name = sc.nextLine();
                System.out.println("Enter new price:");
                price = sc.nextInt();
                dao.updateProduct(id, name, price);
                break;
            case 3:
                System.out.println("Enter product id to delete:");
                id = sc.nextInt();
                dao.deleteProduct(id);
                break;
            case 4:
                List<String> products = dao.listProducts();
                for(String product : products) {
                    System.out.println(product);
                }
                break;
            default:
                System.out.println("Invalid option");
                break;
        }

        sc.close();
    }
}
```