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| Hands-on Exercise Objective |
| After completing the hands-on exercises, you will be able to:   * Use JDBC for performing DML related operations in Java applications. |

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| Problem Statement: MyShopee is a store house, which maintains the item details, customer details and purchase details.  Smith is a software developer in a MyShopee company. The business analysts have provided smith a requirement to develop application which stores the items, customers & purchase information.  The following are the information which need to be stored   * Item information such as item\_code, item\_name, item\_price, qoh ( i.e Quantity On Hand). * Customer information such as customer\_code, customer\_name, phone\_number and address. * Purchase details such as transaction\_id, customer\_code, item\_code, date\_of\_purchase,quantity\_pur (i.e quantity purchased)   Additional Requirements:-   1. Duplicate item and customer details should not be there. 2. price, qoh, quantity\_purchase cannot be 0 or in negative.   **Problem #1 Creating Tables**: Write java code to create following table structures using JDBC statements.   1. **Create ITEM table** 2. item\_code varchar2(5) primary key, 3. item\_name varchar2(20), 4. item\_price number(6,2), 5. qoh number(3) 6. **Create CUSTOMER table** 7. customer\_code varchar2(5) primary key, 8. customer\_name varchar2(20), 9. phone\_number varchar2(10), 10. address varchar2(30) 11. **Create PURCHASE table** 12. transaction\_id varchar2(5) primary key, 13. customer\_code varchar2(5) references customer\_details(customer\_code), 14. item\_code varchar2(5) references item\_details(item\_code), 15. date\_of\_purchase date, 16. quantity\_pur number(3)   **Problem # 2 Loading tables using JDBC statements:**  Create a class called **MyShopUpload.java** to insert data in the above mentioned tables. Develop the following methods:   * storeItemDetails()- This method should connect to oracle database and load the item table with the item details.   **Important:** All the data should come as input parameters to the method or as a value object.   * storeCustomerDetails()-This method should connect to oracle database and load the Customer table with the employee details.   **Important:** All the data should come as input parameters to the method or as a value object.   * purchaseDetails()- This method should connect to oracle database and load the Purchase table with the purchase details.   **Important:** All the data should come as input parameters to the method or as a value object.  Develop a main method which will invoke the above three methods by passing the respective values to be loaded in the database. The data can be hard coded in the main method.  **Problem # 3 Retrieving tables using JDBC Statements:**  Create a class MyShopDisplay.java to display data from the tables. Develop following methods:-   * customerDetails(String customer\_id):- This method should take customer\_id and should display customer\_name, phone\_number and address.   **Important:** If the customer id is not there , error message should be displayed.   * displayItems():- This method should display the item\_id, item\_name, item\_price for all the items in the item table.   **Important:**If there is no records in the item table proper error message should be displayed.   * purchaseDetails(String customer\_id):- This method should take customer\_id and should the display the customer\_name, item\_name, quantity\_pur.   **Important:** if there is no record in the purchase table proper error message should be displayed.  Develop a main method which will invoke the above three methods.  **NOTE:** Use the data mentioned in [Appendix 1 section](#_ITEM_DETAILS_TABLE) to load the tables  **Problem # 4 Calling a procedure :**  Write java code to create oracle procedure called concession\_calculate to calculate concession\_price. concession\_calculate will take item\_code as an argument and will return the price after calculating the new price:  If price<10 No concession i.e the same price will be returned.  If price>=10 and price<=100 10% of price i.e if the price is 100 then the price after concession is 90.  Else 20% of price  Create a class called ConcessionMyShop.java .  Develop following method:-   * calculateConcession() will show item\_code, item\_name, item\_price, concession\_price. Call oracle procedure named concession\_calculate to get concession price   Develop a main method which will invoke the above method. |

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# Appendix 1:

# ITEM DETAILS TABLE

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| **ITEM\_CODE** | **ITEM\_NAME** | **PRICE** | **QOH** |
| I0001 | SHIRT | 1200 | 200 |
| I0002 | T-SHIRT | 800 | 300 |
| I0003 | TIE | 300 | 400 |
| I0004 | Trousers | 2500 | 774 |

# PURCHASE DETAILS TABLE

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TRASACTION\_ID** | **CUSTOMER\_CODE** | **ITEM\_CODE** | **DATE\_OF\_PURCHASE** | **QUANTITY\_PURCHASED** |
| T0001 | C0001 | I0001 | 12-oct-2012 | 10 |
| T0002 | C0001 | I0002 | 15-dec-2012 | 20 |
| T0003 | C0002 | I0001 | 23-dec-2012 | 30 |
| T0004 | C0003 | I0004 | 24-dec-2012 | 7 |

# CUSTOMER\_DETAILS TABLE

|  |  |  |  |
| --- | --- | --- | --- |
| **CUSTOMER\_CODE** | **CUSTOMER\_NAME** | **PHONE\_NUMBER** | **ADDRESS** |
| C0001 | RAMAN | 9830367890 | A/122 , Jawahar Nagar |
| C0002 | JOY | 9675198760 | H/1, Greater Kailash |
| C0003 | Sam | 789865021368 | 22 ram nagar |