# MSIT3860 Data Management for Information Technology

# Term Project Final Deliverable

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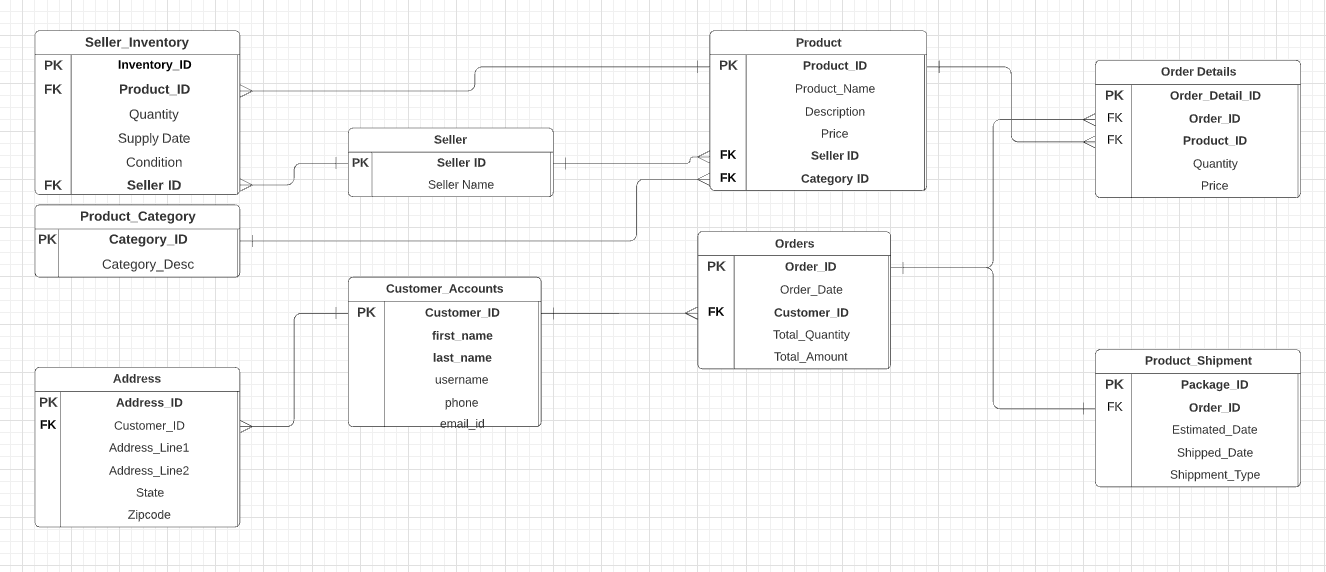
Structural Business Rules

* Every Seller creates a listing of new product or uses an existing listing.
* Each seller sells one or many products; each product has one seller.
* Each product has a category; Every category has many products.
* Each seller ships one or more units of product to seller Inventory; Every product in the inventory has a seller.
* Each customer has one user account access
* Each Customer has one or more address and each address have one customer.
* Each Customer place one or more orders; each orders have one customer.
* Each Purchase by customer have decrement in products from inventory.
* Each order has order details; Each order can have many products.
* Every Package id has one Order ID; Each order may have multiple packages.

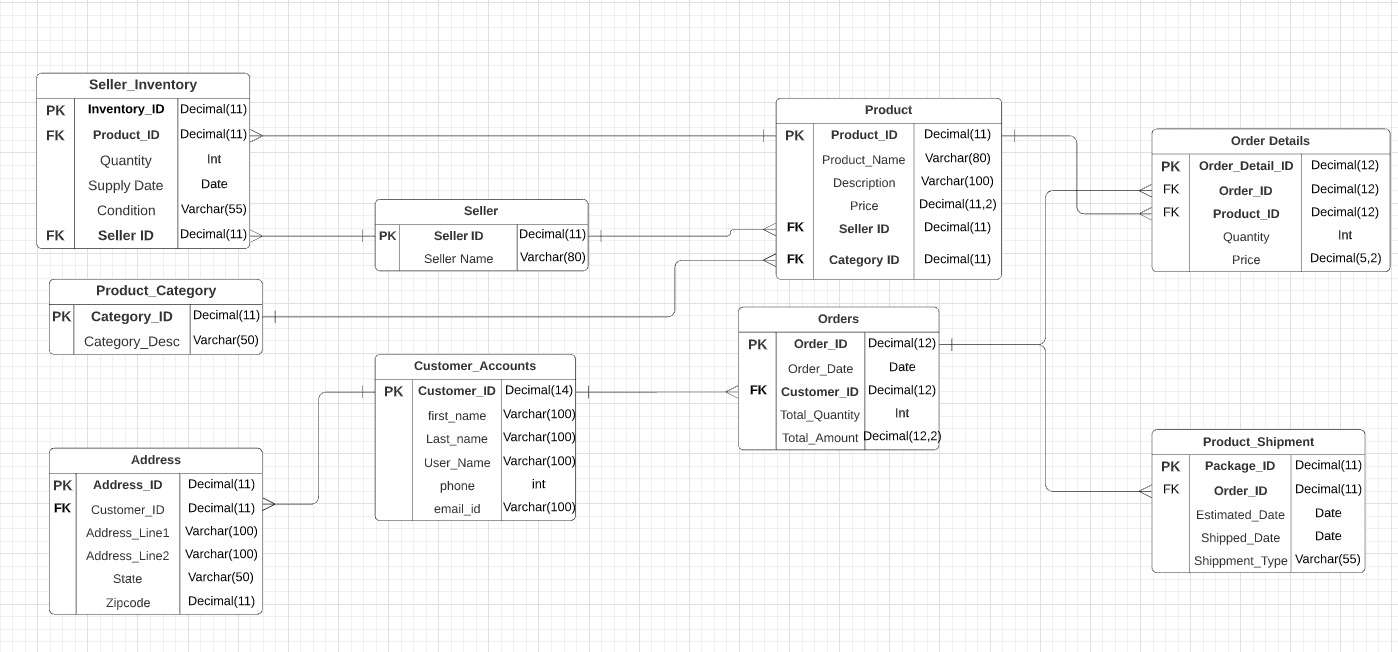
The business rules above have entities listed below:

1. Seller
2. Product
3. Product\_Category
4. Seller\_Inventory
5. Customer\_Accounts
6. Address
7. Orders
8. Order\_Details
9. Product\_Shipment

Conceptual ERD:

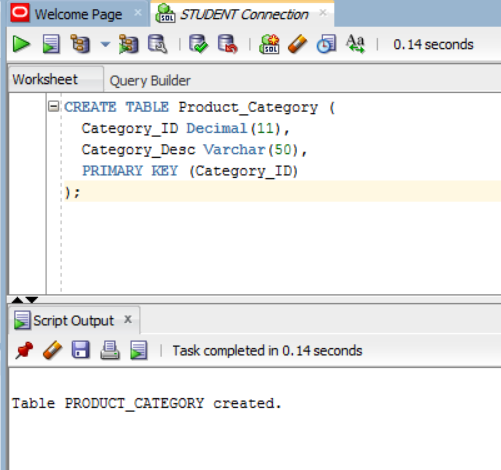
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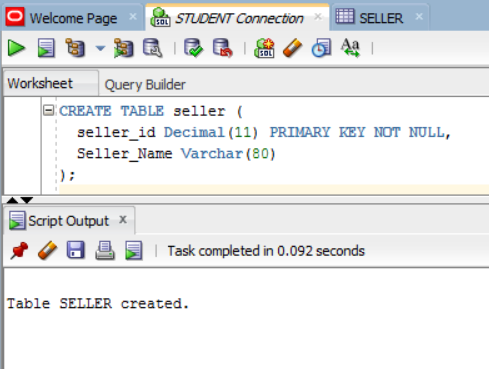
Logical ERD:

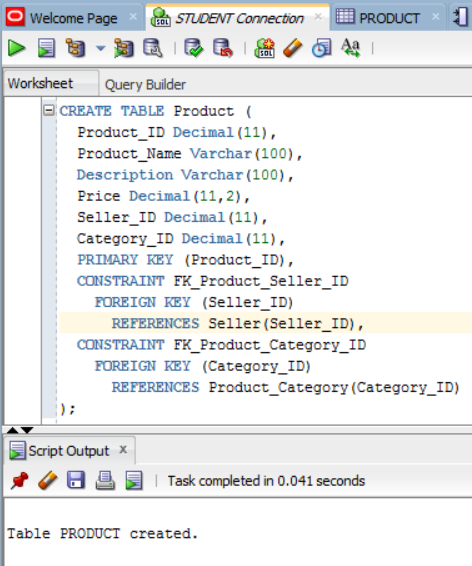


**ASPECT 1**

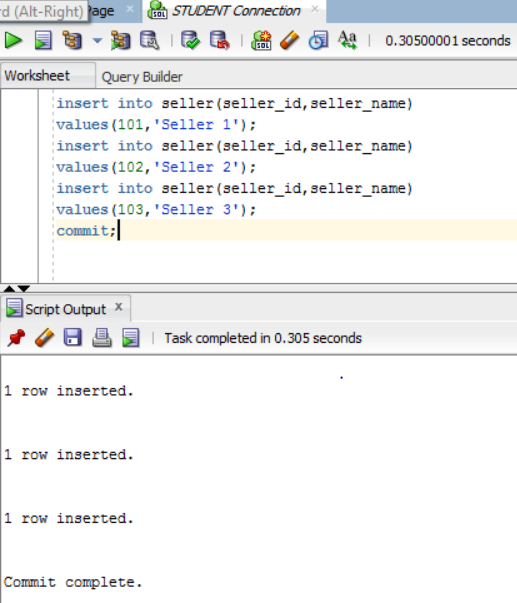
A)Creating Table:



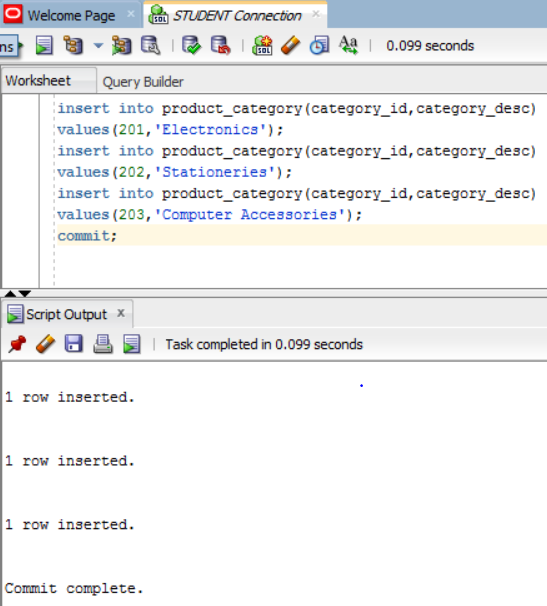




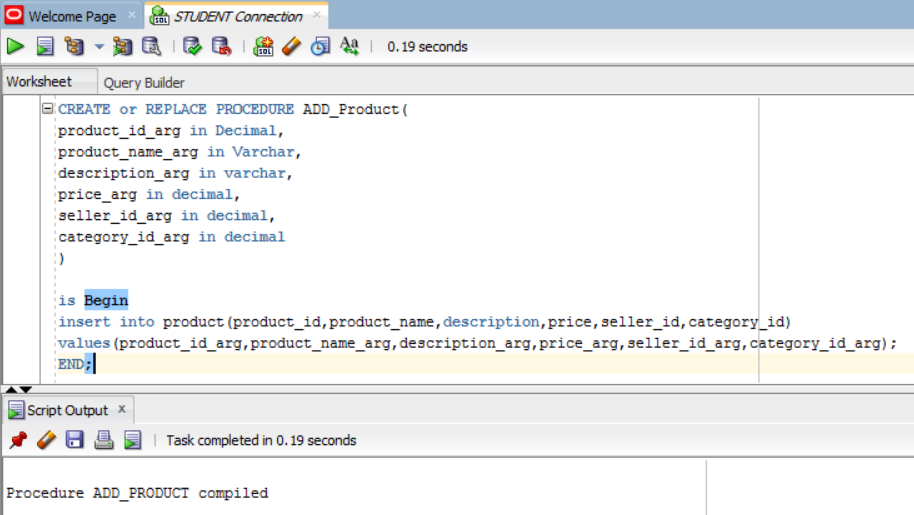
**Inserting into Seller:**



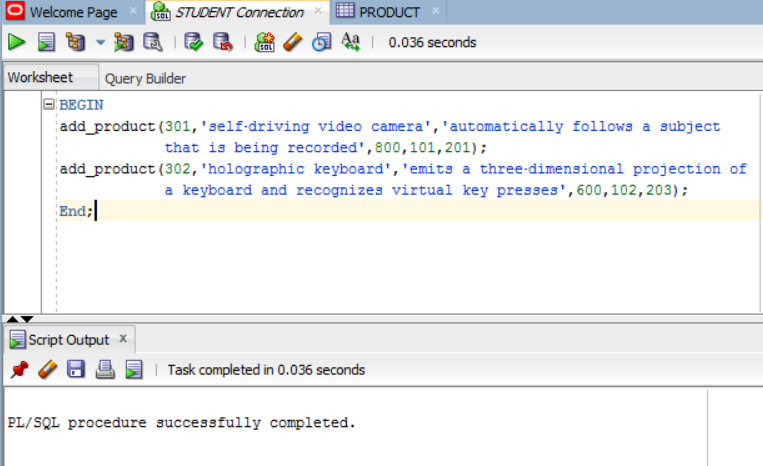
**Inserting in Category:**



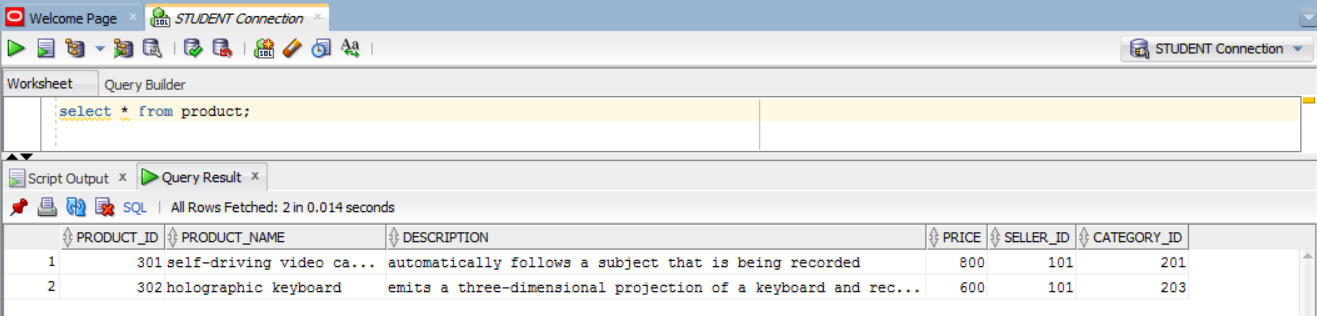
B)Compiling Stored Procedures:



C) Executing Stored Procedures

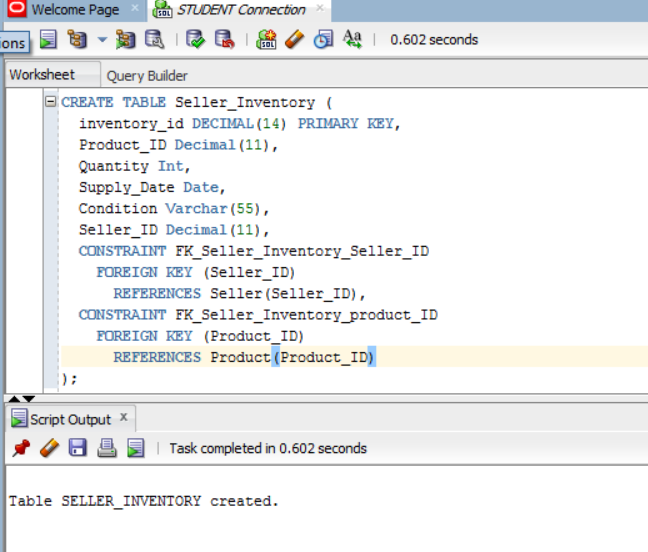


D)SQL QUERY:

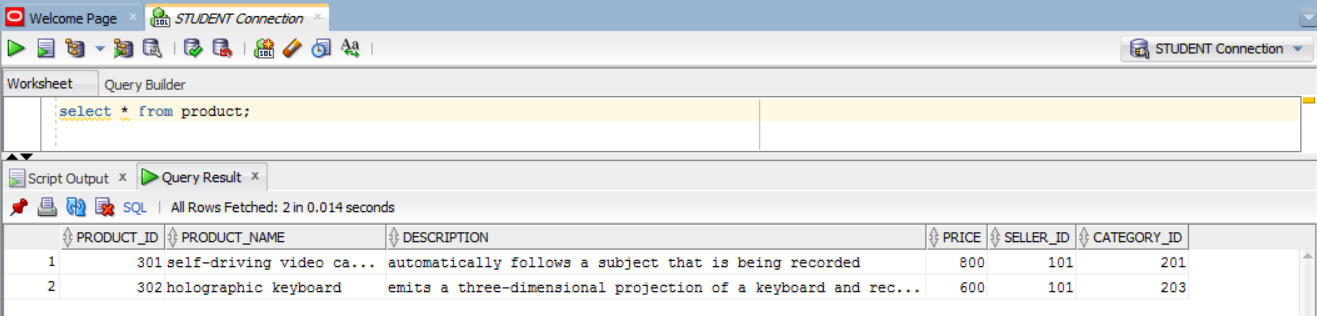


**ASPECT 2**

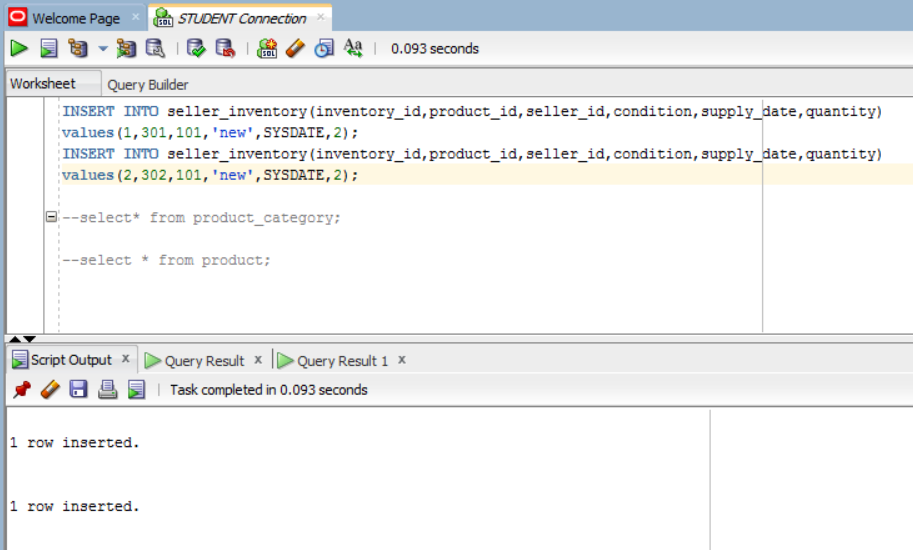
A)Creating Table:

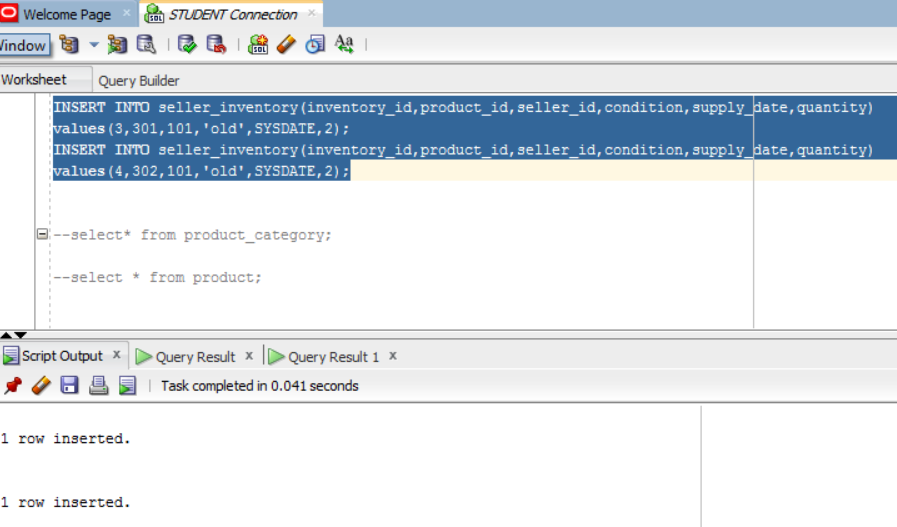


Note\*: Seller and Product tables are created in aspect 1 (Select query from aspect 1 is updated and pasted below)

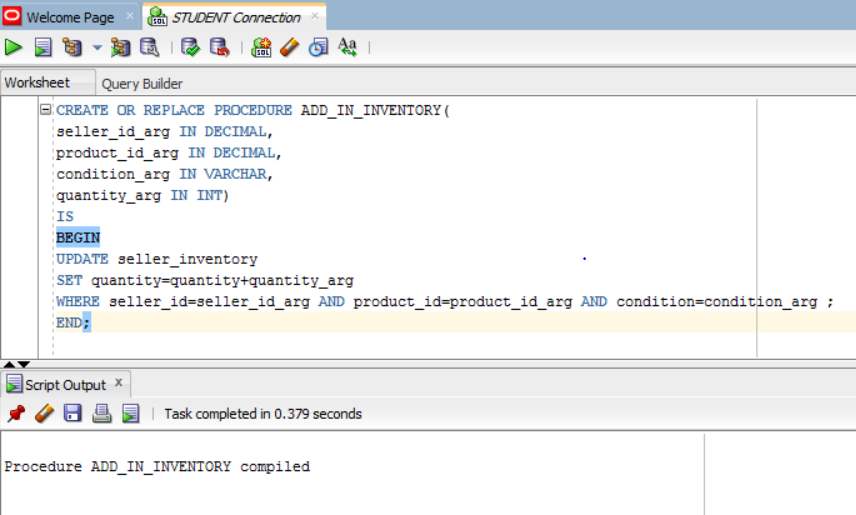


Inserting into Seller\_Inventory

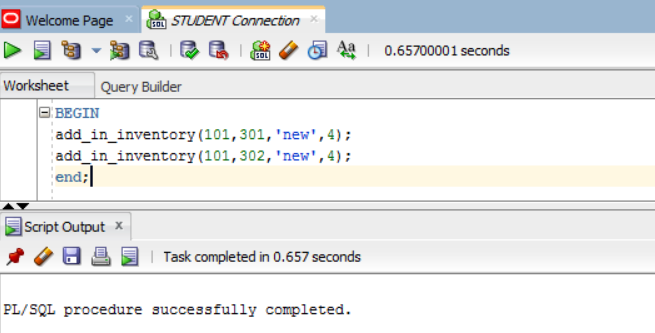


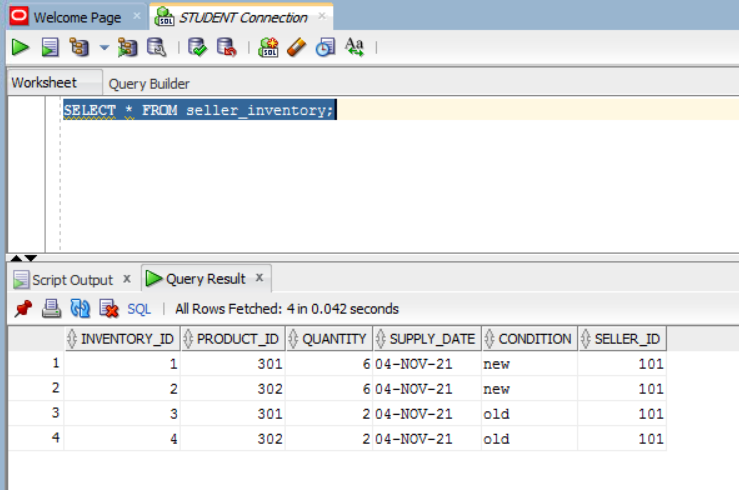


B)Creating Re-usable procedure:

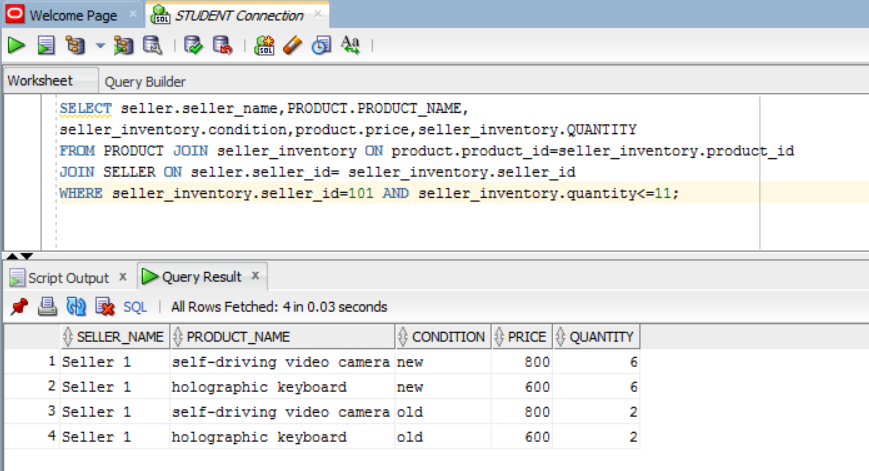


C)Using the Re-usable procedure:



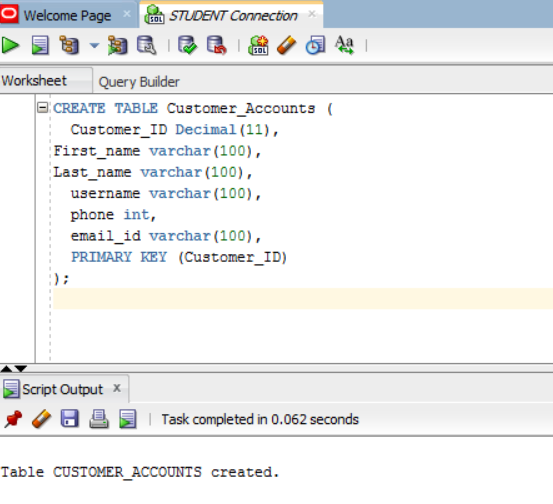


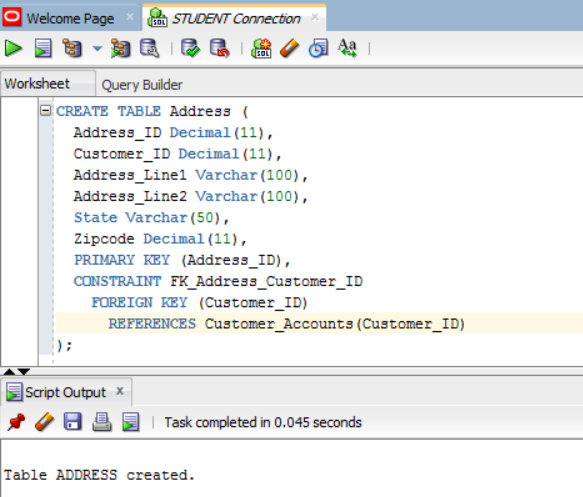
D)SQL Query



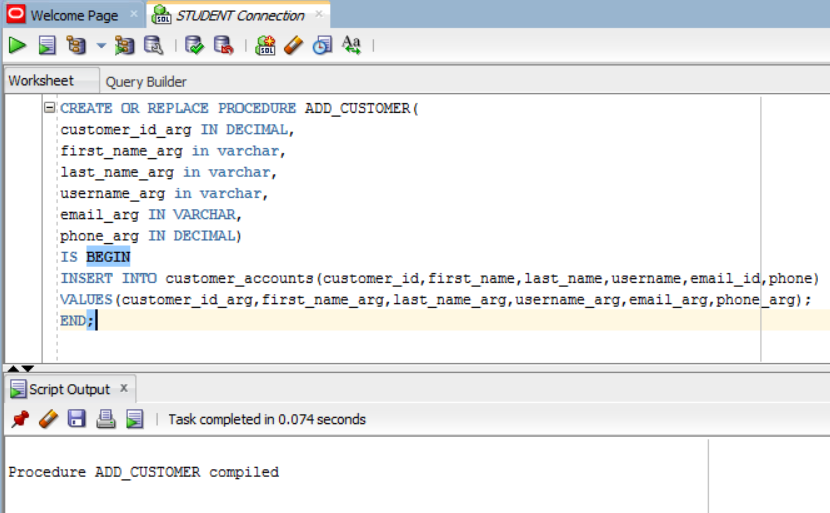
**ASPECT 3**

A) Creating Tables





B) Creating Re-Usable Stored procedures:

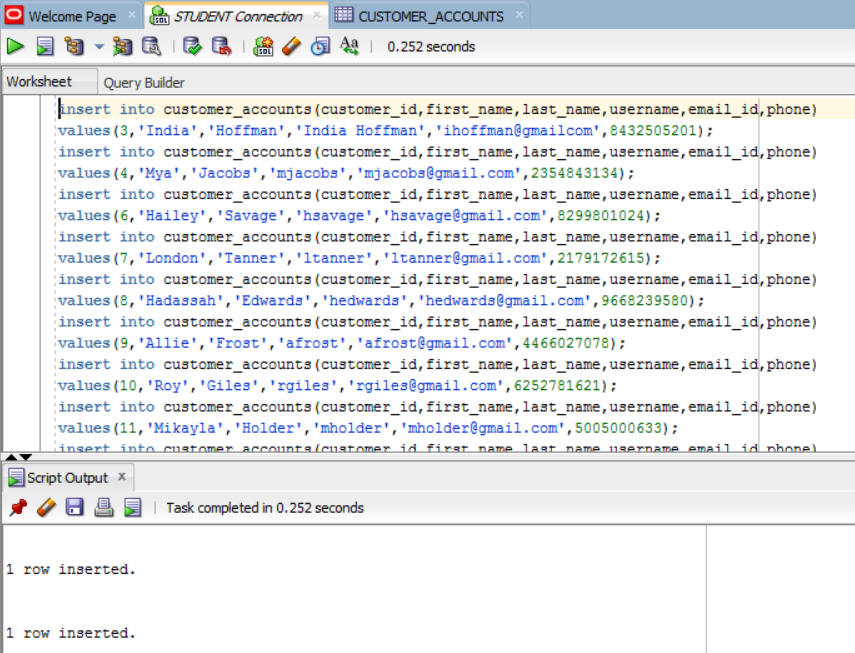


C) Invoking the procedure to add me and my facilitator:

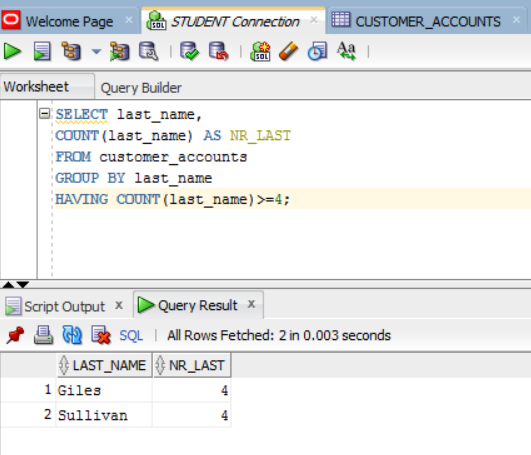
Graphical user interface, text, application, email

Description automatically generated

Inserting customers and accounts in customer\_accounts table:

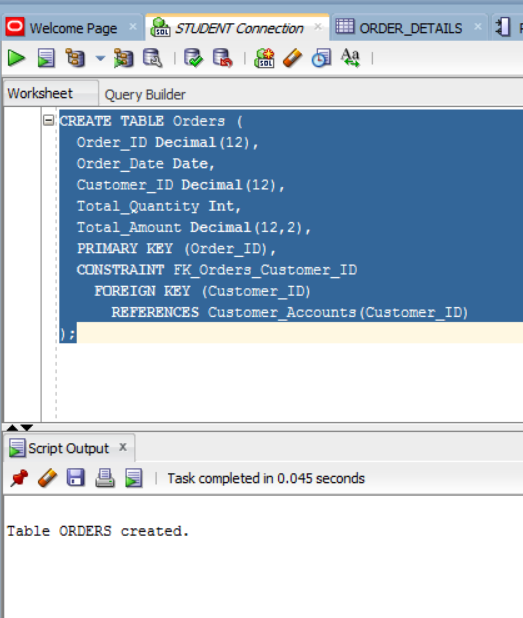


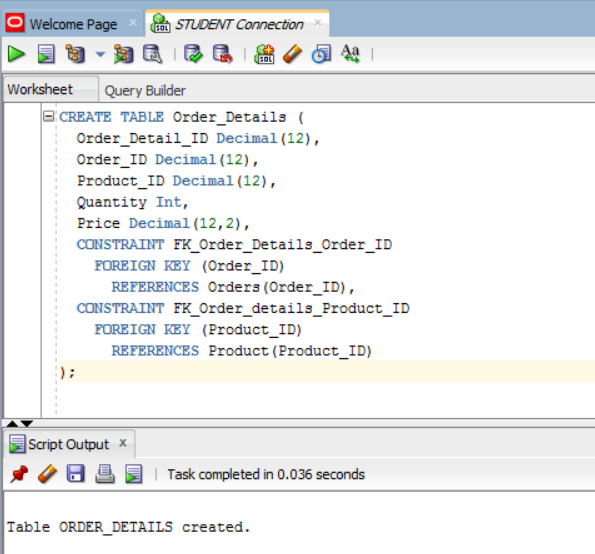
D) SQL QUERY:



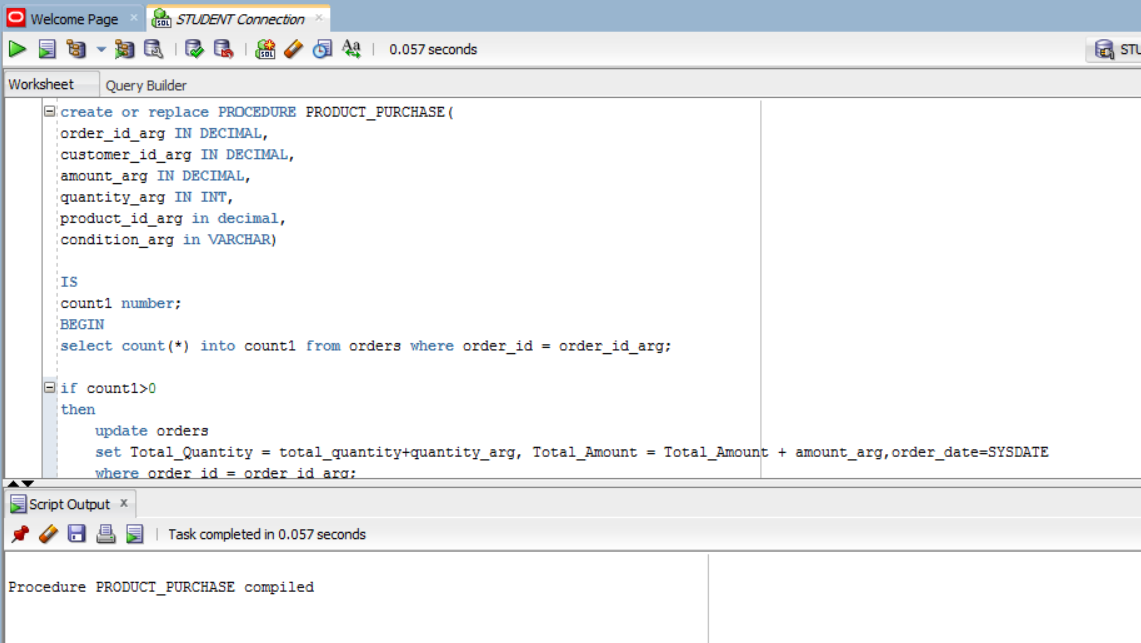
**Aspect 4**

A) Creating Tables



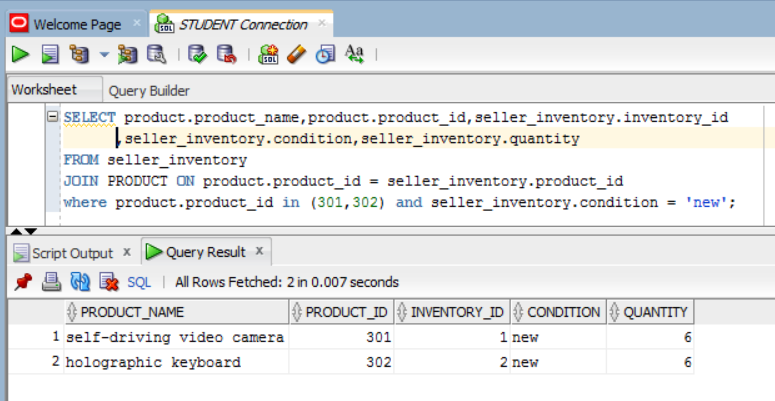


B) Creating Stored Procedure for Product\_Purchase:

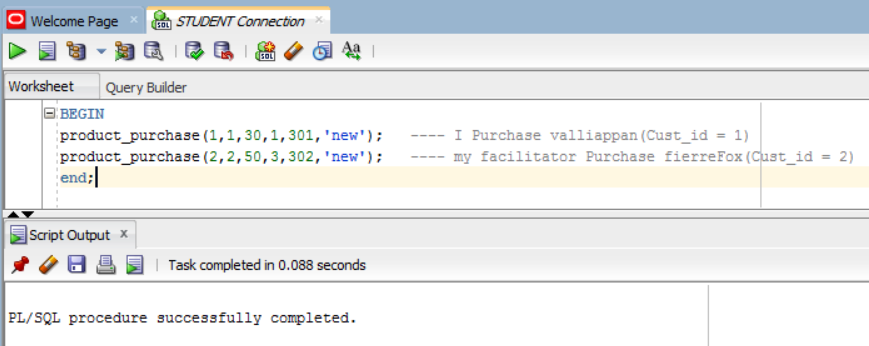


Please View the text file for full stored procedure of Product\_Purhase.

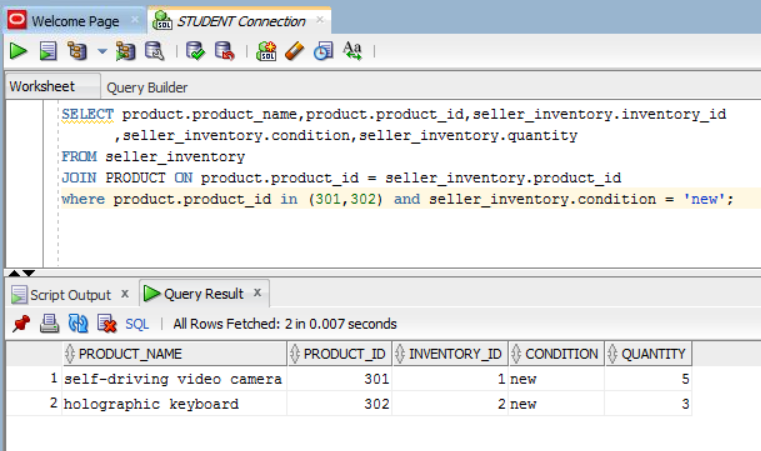
**Quantity of the product Before using the stored procedure:**



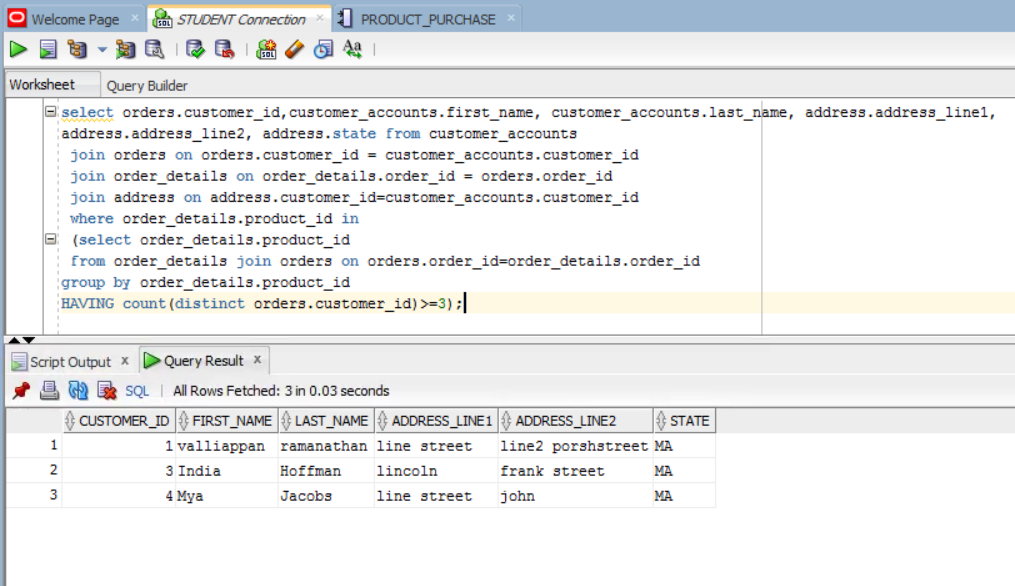
C) Executing the stored procedure:



**Quantity of the product after using the stored procedure:**

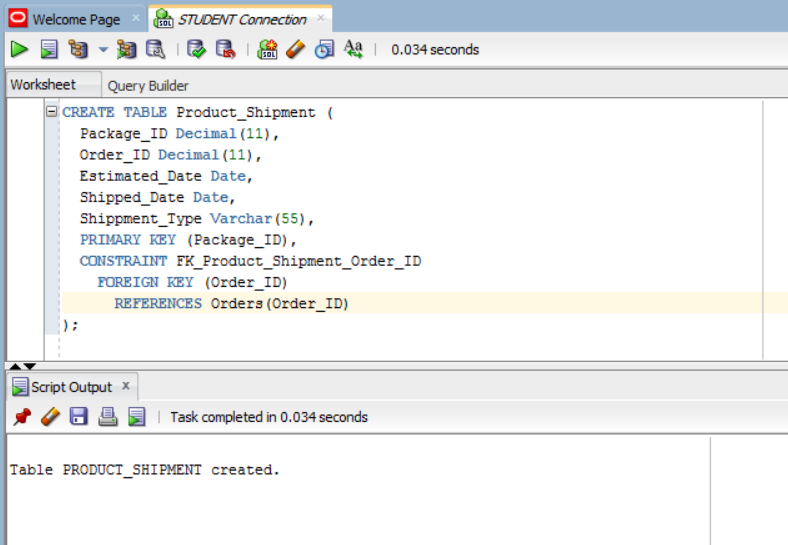


D) SQL Query:

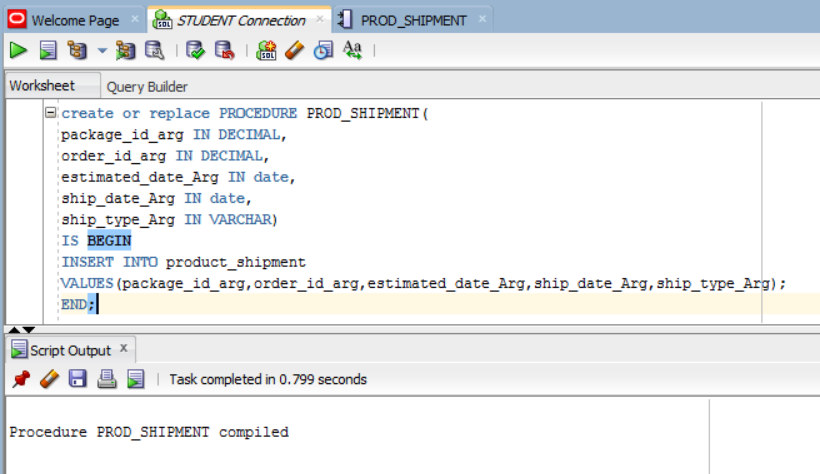


**Aspect 5:**

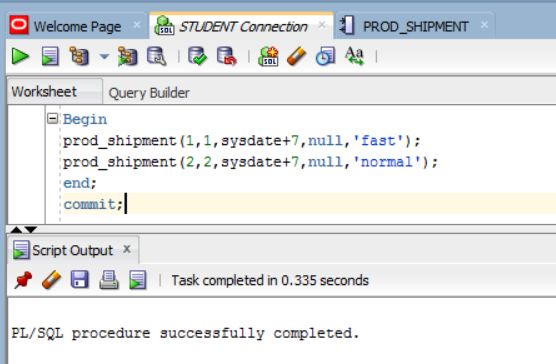
A) Creating Tables:



B)Creating Procedure:

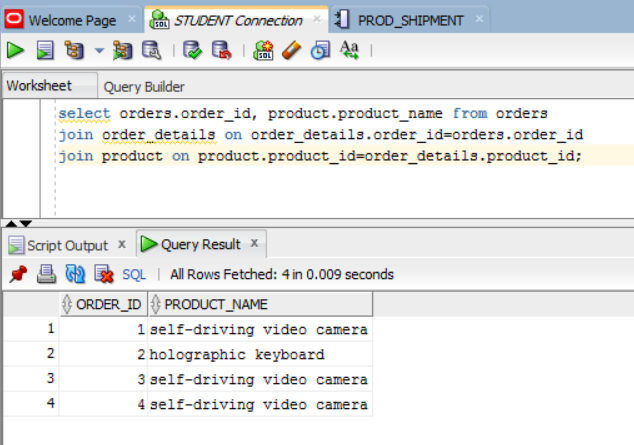


C)Using The Stored Procedure:

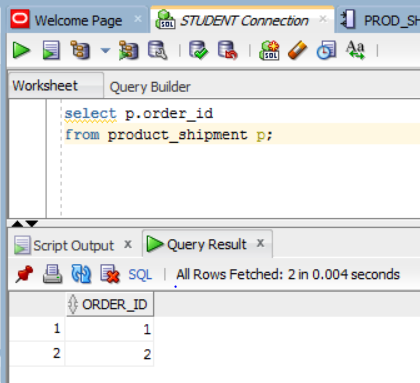


D) SQL QUERY:

**1st Query (Selecting the list of orders and products that are placed in orders)**

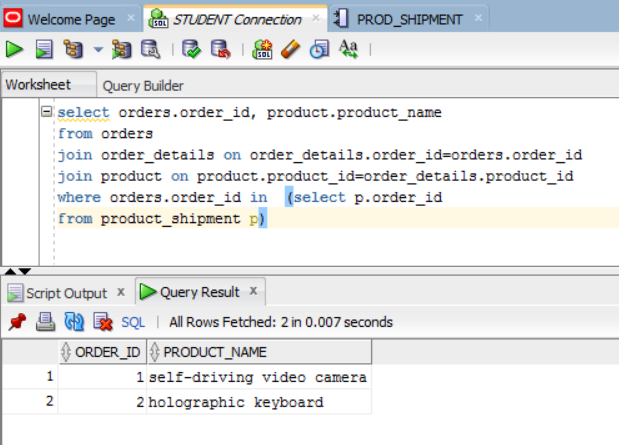


**2nd Query for list of order packages in for shipment:**



**FullQuery:**

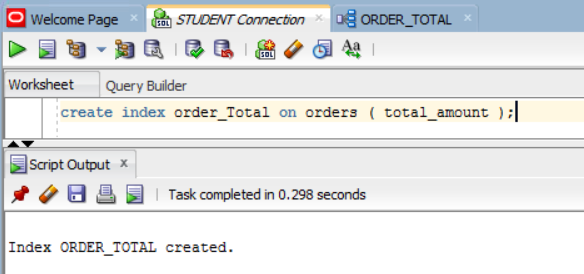
Here for obtaining the list of products that are in for shipment using 2nd query as inner subquery for 1st query as outer main query:



**Index Justification and Creation:**

Here index is created for the column “Total\_Amount” in “orders” table.

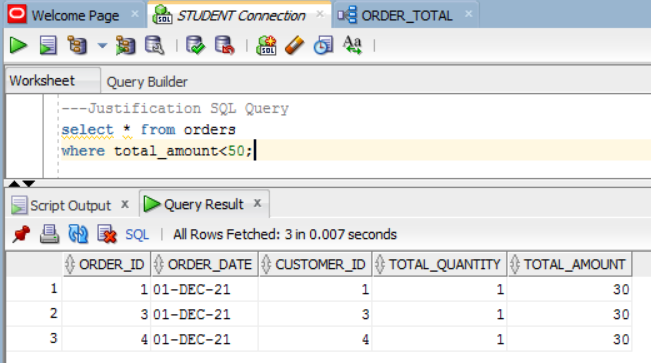
**Index Creation:**



**Index Justification**

If the company management wants to check the orders which has the cost of order less than 50, to improve their business decision and to derive a analysis based on that considering various aspects of price, product, business time period etc.

For example, below is the query applied on the indexed “total\_amount” column from orders for the total\_amount less than 50. And we get the list of orders which were less than 50 and index helped to retrieve the data sooner.



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