

## **GROUP 86 Milestone 3 PDF**

### **Project Description:**

Our database models a food delivery app, and its purpose is to manage data regarding the users of the app. There are three different classes of users for our app: the customers, the restaurants, and the couriers. During Milestone 3, we created an application that connects users to our database in a way that allows them to access and/or modify certain information within the database using a set of queries accessible through a GUI. The GUI that we implemented allows users to easily run a specific set of queries without needing to use SQL. Each class of user has different queries available for them to execute when using our application: for example, a customer can view their individual order history, while a restaurant can view the information of all orders placed with that restaurant.

The functionality of our application is very similar to how we described it in Milestone 1, though a few ideas we had in Milestone 1 had to be scrapped due to implementation complications and time constraints. The updated description of our application's functionality is as follows:

1. Customers are able to register an account with the app, modify their some of their account information (such as their address, name, and phone number), delete their account, place orders, view their order history, buy gift cards, and redeem/use coupons.
2. Couriers are able to register an account with the app (as well as their vehicle, bicycle, or bus pass, depending on the type of courier they register as), modify some of their account information (such as their name and phone number), delete their account, and view information regarding orders they have delivered.
3. Restaurants are able to register an account with the app, modify some of their account information (such as their category and name), delete their account, and access information about orders that have been placed with their restaurant (such as the list of menu items ordered). Restaurants must also register their menu with the app, and they have the ability to add/update/delete dishes from their menu at any time.

### **Changes We Made Between Milestones:**

During Milestone 1, we planned to create our application using Oracle, Java, and JDBC. Upon beginning Milestone 3, we changed our minds and decided to use Oracle and PHP instead. Using PHP proved to be a minor challenge since no one in our group had ever used it before, but with the guidance of both the CPSC 304 tutorials and Google, we were able to complete the project with relatively few difficulties.

After Milestone 1, we made the following changes to the ER diagram for Milestone 2:

1. Removed the Menu\_Items ISA (because it wasn't meaningful).
2. Renamed the 'Driver' entity to 'Courier'.

3. Added an ISA to the Courier entity (with sub-entities Foot\_Courier, Bicycle\_Courier, and Vehicle\_Courier).
4. Added some new attributes to the Orders entity: food\_subtotal, delivery\_fee, and courier\_tip (to facilitate the normalization requirement in Milestone 2).

From Milestone 2 to Milestone 3, we did not make any major changes to the schema. We did make a few minor adjustments to the data types used (e.g. changed the data type of the "date\_placed" attribute in the Orders entity from 'string' to 'DATE'). We also had to change the name of our "Order" entity to "Orders", because "Order" happened to be a reserved keyword in Oracle.

#### **SQL Script and Query Files:**

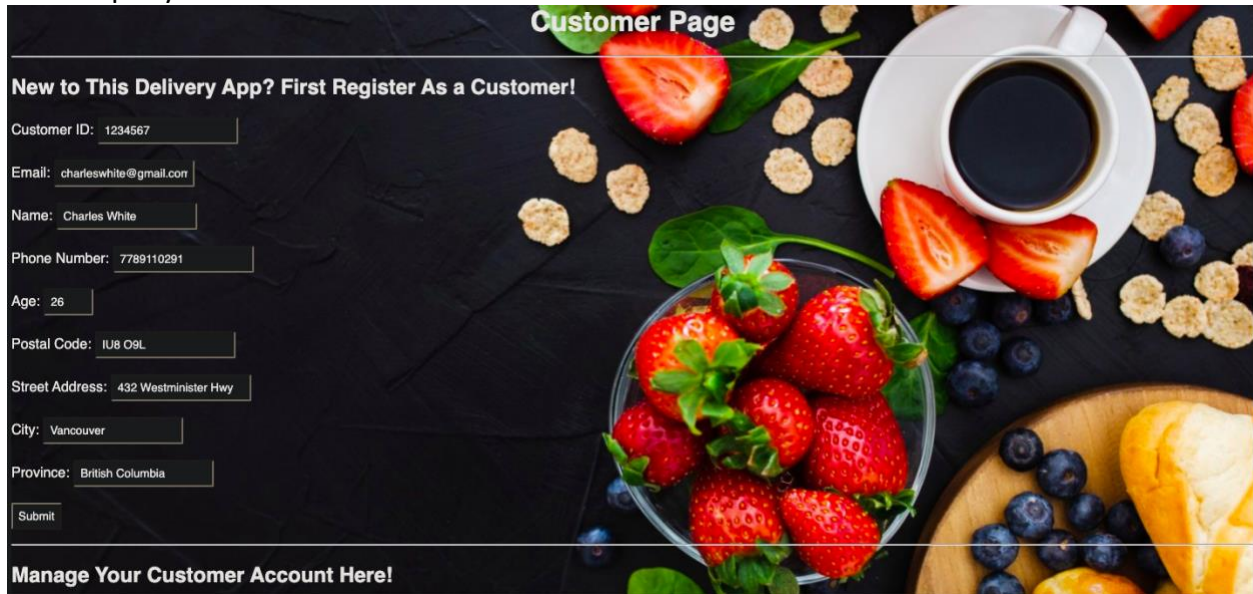
We used the databaseSetup.sql script to create and populate the tables for our database. The SQL queries we used to satisfy the grading rubric can be found in the queries.sql file.

(Project screenshots start on the following page.)

## SCREENSHOTS:

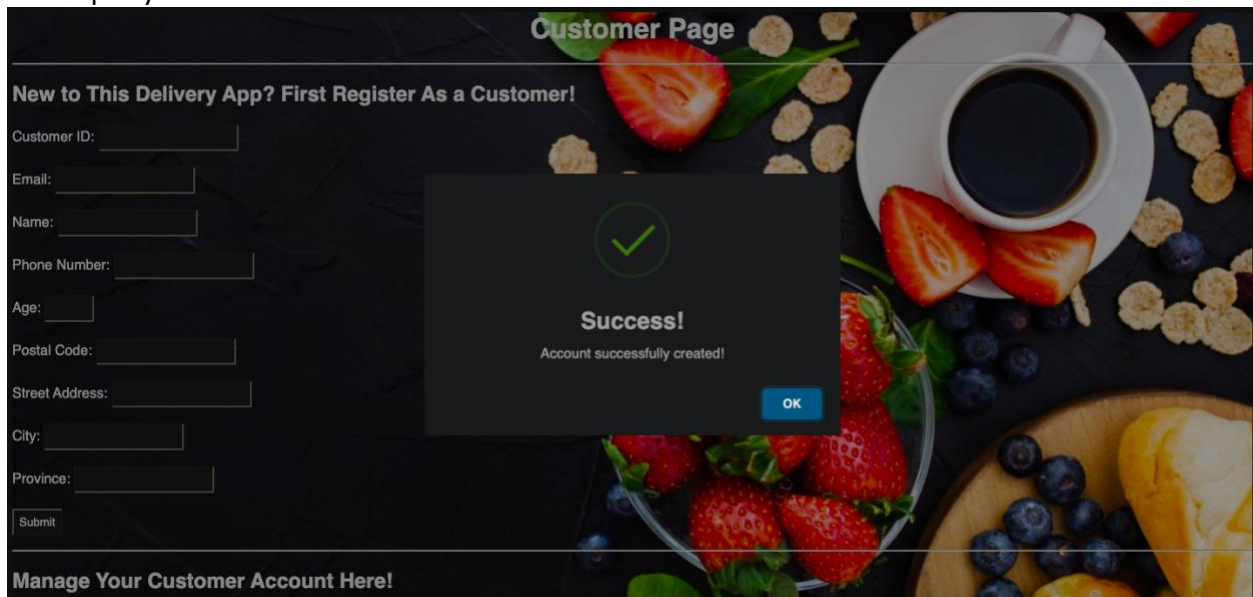
### 1) Insertion Query

Before query:



The screenshot shows a web form titled "Customer Page" with a background image of a cup of coffee, strawberries, and cereal. The form has the heading "New to This Delivery App? First Register As a Customer!". It contains several input fields with pre-filled values: Customer ID (1234567), Email (charleswhite@gmail.com), Name (Charles White), Phone Number (7789110291), Age (26), Postal Code (J08 09L), Street Address (432 Westminister Hwy), City (Vancouver), and Province (British Columbia). A "Submit" button is at the bottom left. At the bottom of the page, there is a link that says "Manage Your Customer Account Here!".

After query:



This screenshot is identical to the previous one, but with a modal dialog box overlaid in the center. The dialog box has a green checkmark icon and the text "Success! Account successfully created!". There is an "OK" button in the bottom right corner of the dialog box. The form fields and other page elements remain visible in the background.

## 2) Deletion Query

Before query:

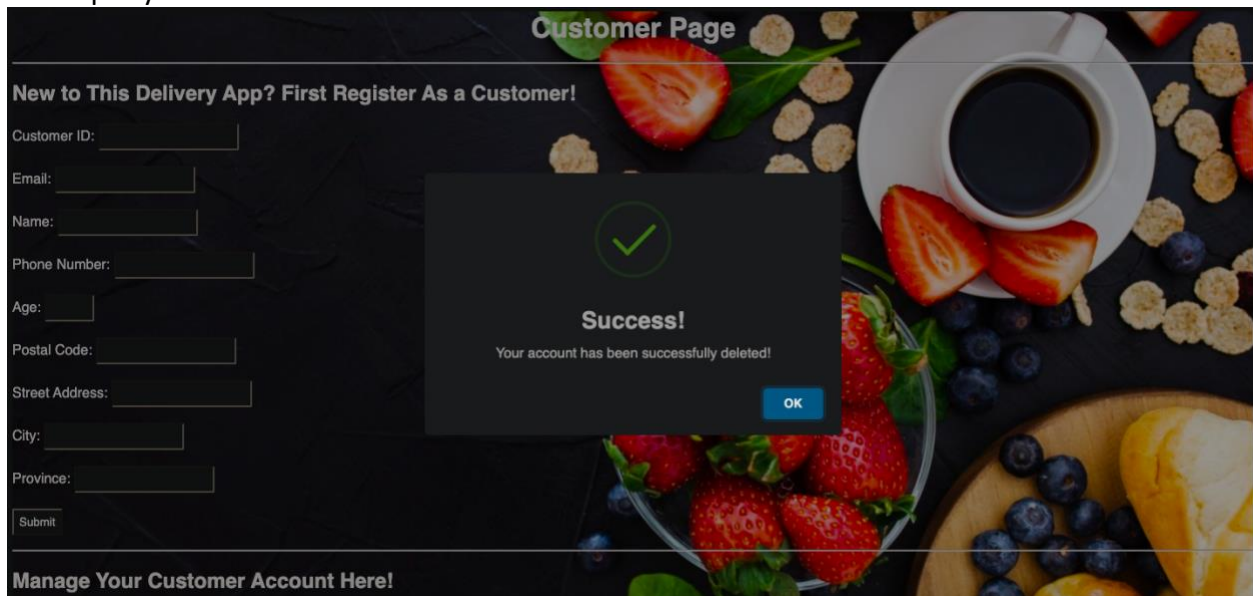


**Delete Your Account:**  
**Warning: This action cannot be undone!**  
Your Customer ID:

**Add a Coupon to Your Account:**  
Your Customer ID:   
Coupon Code:

**Looking for the Perfect Gift?**  
**Buy a Gift Card for Yourself or a Friend!**  
Your Customer ID:   
Recipient's Email:   
Recipient's Name:

After query:



**Customer Page**

**New to This Delivery App? First Register As a Customer!**

Customer ID:   
Email:   
Name:   
Phone Number:   
Age:   
Postal Code:   
Street Address:   
City:   
Province:

**Success!**  
Your account has been successfully deleted!

**Manage Your Customer Account Here!**



### 3) Update Query

Before query:

**Update Your Personal Info:**  
(Check the boxes next to the information you would like to update.)

Your Customer ID:

☒ New Name:

☒ New Phone Number:

☒ New Email:

☒ New Age:

☒ Update your Address (Please fill out all of the following 4 fields):

New Street Address:

New Postal Code:

New City:

New Province:

After query:

**Customer Page**

**New to This Delivery App? First Register As a Customer!**

Customer ID:

Email:

Name:

Phone Number:


Age:

Postal Code:

Street Address:

City:

Province:




**Success!**  
Update was successful!

**Manage Your Customer Account Here!**

## 4) Selection Query

Before query:

**View All Restaurants that Have a Rating Greater Than Some Value:**

Higher Than:  

**For Each Restaurant Category, Find the Restaurant(s) that Has the Highest Rating in that Category:**

**Find Which Restaurant Category Has the Lowest Average Price of Menu Items Compared to All Other Restaurant Categories:**

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**Check Your Order History And Place a New Order!**

**Check Your Order History:**

Your Customer ID:

After query:

Customer ID:

Restaurant ID:

Delivery Address:

Menu Items (Separate items with a comma):

Courier Tip:

Payment Method:

(Optional) Gift Card Number:

(Optional) Coupon Code:

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Retrieved List of All Restaurants That Have a Rating Higher Than the Selected Value:

Restaurant ID	Restaurant Name	Category	Rating
200001	Qilin	Asian	7.8
200002	McBur	Fast food	9.4
200004	GrilledCk	Fast food	8
200005	Passione	Italian	6.7
200006	Highest Rating Italian Restaurant	Italian	8.7



## 5) Projection Query

Before query:

**View All Orders That Have Been Placed With Your Restaurant:**

Your Restaurant ID:

**Display All Restaurant Related Tables:**

**Hardcoded Queries**

**Find All Customers Who Have Ordered From All Restaurants in Montreal, Quebec:**

**Find All Customers Who Have Placed At Least Three Orders With a Food Subtotal Greater Than \$20:**

**For All Restaurants That Have a Rating That is Higher Than a Specific Value, Return the Average Food Subtotal for the Orders Made at Each of Those Restaurants:**

Rating:

After query:

**Display All Restaurant Related Tables:**

**Hardcoded Queries**

**Find All Customers Who Have Ordered From All Restaurants in Montreal, Quebec:**

**Find All Customers Who Have Placed At Least Three Orders With a Food Subtotal Greater Than \$20:**

**For All Restaurants That Have a Rating That is Higher Than a Specific Value, Return the Average Food Subtotal for the Orders Made at Each of Those Restaurants:**

Rating:

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Retrieved Information About All Orders Placed With Your Restaurant:

Order_Number	Customer_ID	Email	Name	Phone_Number	Street_Address
7189012	100001	abcde@gmail.com	Alice	7781112223	2788 90th Avenue
500001	100001	abcde@gmail.com	Alice	7781112223	2788 90th Avenue

## 6) Join Query

Before query:

**View All Orders That Have Been Placed With Your Restaurant:**

Your Restaurant ID:

**Display All Restaurant Related Tables:**

**Hardcoded Queries**

**Find All Customers Who Have Ordered From All Restaurants in Montreal, Quebec:**

**Find All Customers Who Have Placed At Least Three Orders With a Food Subtotal Greater Than \$20:**

**For All Restaurants That Have a Rating That is Higher Than a Specific Value, Return the Average Food Subtotal for the Orders Made at Each of Those Restaurants:**

Rating:

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After query:

**Hardcoded Queries**

**Find All Customers Who Have Ordered From All Restaurants in Montreal, Quebec:**

**Find All Customers Who Have Placed At Least Three Orders With a Food Subtotal Greater Than \$20:**

**For All Restaurants That Have a Rating That is Higher Than a Specific Value, Return the Average Food Subtotal for the Orders Made at Each of Those Restaurants:**

Rating:

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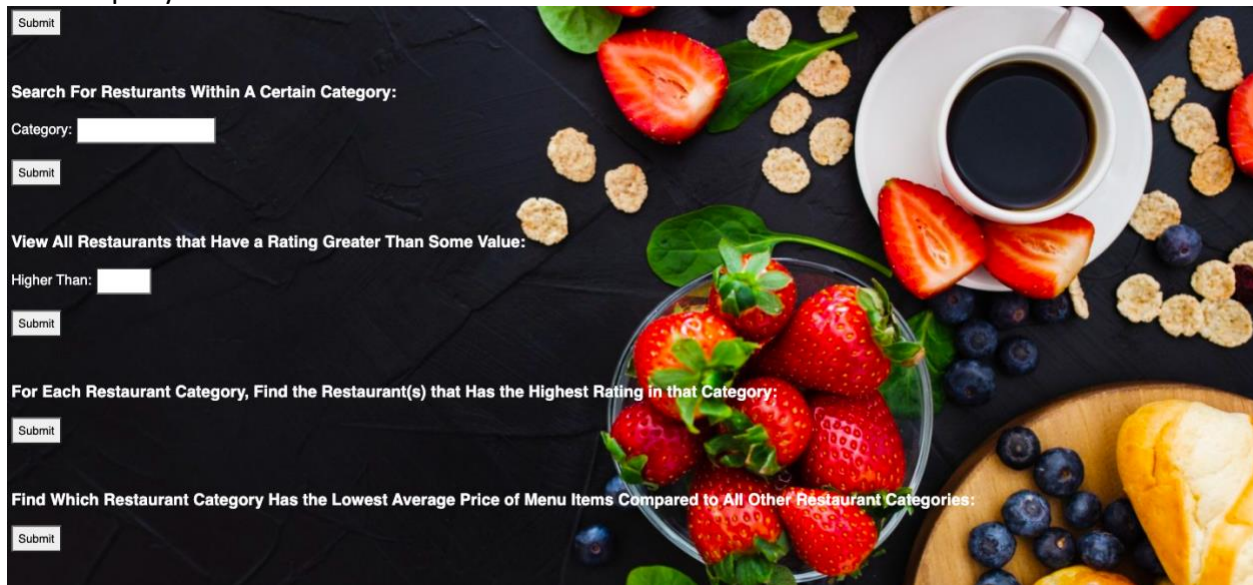
Retrieved Restaurant and Order Info:

Average Food Subtotal	Restaurant ID	Name	Rating
22.445	200001	MIAMIA	7.8
68.74	200002	McBurr	9.4
51.9725	200004	GrilledCk	8
38.0325	200005	Passione	6.7
38.575	200006	Highest Rating Italian Restaurant	8.7



## 7) Aggregation With Group By Query

Before query:



**Search For Restaurants Within A Certain Category:**

Category:

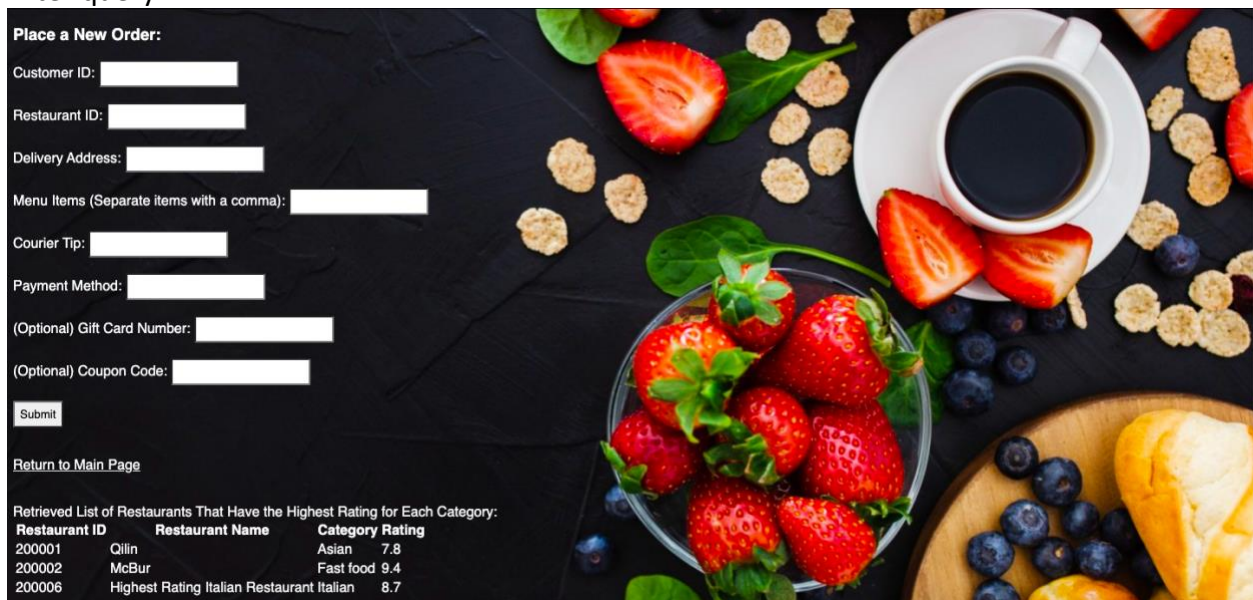
**View All Restaurants that Have a Rating Greater Than Some Value:**

Higher Than:

**For Each Restaurant Category, Find the Restaurant(s) that Has the Highest Rating in that Category:**

**Find Which Restaurant Category Has the Lowest Average Price of Menu Items Compared to All Other Restaurant Categories:**

After query:



**Place a New Order:**

Customer ID:

Restaurant ID:

Delivery Address:

Menu Items (Separate items with a comma):

Courier Tip:

Payment Method:

(Optional) Gift Card Number:

(Optional) Coupon Code:

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Retrieved List of Restaurants That Have the Highest Rating for Each Category:

Restaurant ID	Restaurant Name	Category	Rating
200001	Qilin	Asian	7.8
200002	McBur	Fast food	9.4
200006	Highest Rating Italian Restaurant	Italian	8.7

## 8) Aggregation With Having Query

Before query:

**view All Orders That have Been Placed with Your Restaurant:**

Your Restaurant ID:

**Display All Restaurant Related Tables:**

**Hardcoded Queries**

**Find All Customers Who Have Ordered From All Restaurants in Montreal, Quebec:**

**Find All Customers Who Have Placed At Least Three Orders With a Food Subtotal Greater Than \$20:**

**For All Restaurants That Have a Rating That is Higher Than a Specific Value, Return the Average Food Subtotal for the Orders Made at Each of Those Restaurants:**

Rating:

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After query:

**Display All Restaurant Related Tables:**

**Hardcoded Queries**

**Find All Customers Who Have Ordered From All Restaurants in Montreal, Quebec:**

**Find All Customers Who Have Placed At Least Three Orders With a Food Subtotal Greater Than \$20:**

**For All Restaurants That Have a Rating That is Higher Than a Specific Value, Return the Average Food Subtotal for the Orders Made at Each of Those Restaurants:**

Rating:

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**Find IDs of Customers Who Have Placed At Least Three Orders, With Food Subtotal Higher Than \$20:**

**Customer ID**  
100003  
100002



## 9) Nested Aggregation With Group By Query

Before query:



**Search For Restaurants Within A Certain Category:**

Category:

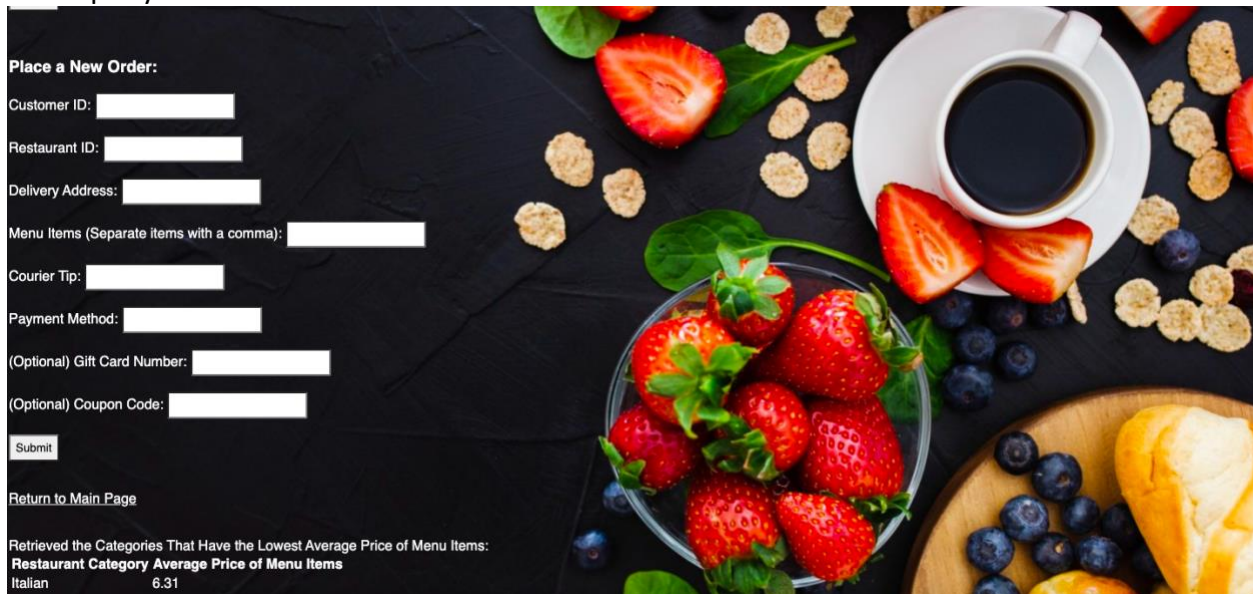
**View All Restaurants that Have a Rating Greater Than Some Value:**

Higher Than:

**For Each Restaurant Category, Find the Restaurant(s) that Has the Highest Rating in that Category:**

**Find Which Restaurant Category Has the Lowest Average Price of Menu Items Compared to All Other Restaurant Categories:**

After query:



**Place a New Order:**

Customer ID:

Restaurant ID:

Delivery Address:

Menu Items (Separate items with a comma):

Courier Tip:

Payment Method:

(Optional) Gift Card Number:

(Optional) Coupon Code:

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Retrieved the Categories That Have the Lowest Average Price of Menu Items:

Restaurant Category	Average Price of Menu Items
Italian	6.31



## 10) Division Query

Before query:

**View All Orders That Have Been Placed With Your Restaurant:**

Your Restaurant ID:

**Display All Restaurant Related Tables:**

**Hardcoded Queries**

**Find All Customers Who Have Ordered From All Restaurants in Montreal, Quebec:**

**Find All Customers Who Have Placed At Least Three Orders With a Food Subtotal Greater Than \$20:**

**For All Restaurants That Have a Rating That is Higher Than a Specific Value, Return the Average Food Subtotal for the Orders Made at Each of Those Restaurants:**

Rating:

After query:

**Hardcoded Queries**

**Find All Customers Who Have Ordered From All Restaurants in Montreal, Quebec:**

**Find All Customers Who Have Placed At Least Three Orders With a Food Subtotal Greater Than \$20:**

**For All Restaurants That Have a Rating That is Higher Than a Specific Value, Return the Average Food Subtotal for the Orders Made at Each of Those Restaurants:**

Rating:

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Find all customers who have ordered from all restaurants in Montreal, Quebec:

Name	Customer ID
Alice	100001
Jack	100002
Waston	100003
Tracer	100004
Ark	100005