FOOD ON-CAMPUS MANAGEMENT SYSTEM

REPORT

Vamshi T RA2211003010211

Harish Sridhar RA2211003010205

Bindushree K RA2211003010228

TABLES

1. **Shop**: Contains login information for users.
   - login_id (Primary Key)
   - username
   - password
   - user_type

2. **Shop_Category**: Contains information about vehicle owners.
   - owner_id (Primary Key)
   - owner_name
   - contact_number
   - email
   - address

3. **Menu**: Contains information about vehicles.
   - vehicle_id (Primary Key)
   - owner_id (Foreign Key referencing Owners table)
   - make
   - model
   - year
   - registration_number

4. **Menu_Item**: Contains information about vehicle registrations.
   - registration_id (Primary Key)
   - vehicle_id (Foreign Key referencing Vehicles table)
   - registration_date
   - expiration_date

5. **Review**: Contains information about employees.
   - employee_id (Primary Key)
   - employee_name
   - designation
   - department

SHOP_CATEGORY

```sql
CREATE TABLE IF NOT EXISTS Shop_Category (
    category_id INT AUTO_INCREMENT PRIMARY KEY,
    category_name VARCHAR(255) NOT NULL
);
```

SHOP

```sql
CREATE TABLE IF NOT EXISTS Shop (
    shop_id INT AUTO_INCREMENT PRIMARY KEY,
    name VARCHAR(255) NOT NULL,
    location VARCHAR(255) NOT NULL,
    contact_number VARCHAR(20) NOT NULL,
    opening_hours TIME NOT NULL,
    closing_hours TIME NOT NULL,
    category_id INT,
    overall_rating FLOAT,
    FOREIGN KEY (category_id) REFERENCES Shop_Category(category_id)
);
```

MENU

```sql
CREATE TABLE IF NOT EXISTS Menu (
    menu_id INT AUTO_INCREMENT PRIMARY KEY,
    shop_id INT,
    FOREIGN KEY (shop_id) REFERENCES Shop(shop_id)
);
```
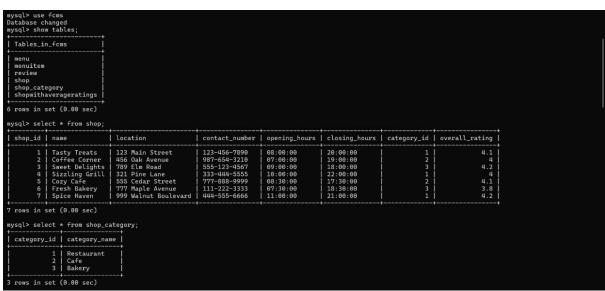
MENU_ITEM

CREATE TABLE IF NOT EXISTS MenuItem (

    item_id INT AUTO_INCREMENT PRIMARY KEY,

    menu_id INT,

    item_name VARCHAR(255) NOT NULL,

    description TEXT,

    price DECIMAL(10, 2) NOT NULL,

    FOREIGN KEY (menu_id) REFERENCES Menu(menu_id)

);

REVIEW

CREATE TABLE IF NOT EXISTS Review (

    review_id INT AUTO_INCREMENT PRIMARY KEY,

    hygiene_rating INT NOT NULL,

    price_rating INT NOT NULL,

    overall_rating FLOAT,

    comments TEXT,

    shop_id INT,

    FOREIGN KEY (shop_id) REFERENCES Shop(shop_id)

);

```
mysql> use fcms
Database changed
mysql> show tables;
+----------------------+
| Tables_in_fcms       |
+----------------------+
| menu                 |
| menuitem             |
| review               |
| shop                 |
| shop_category        |
| shopwithaverageratings |
+----------------------+
6 rows in set (0.00 sec)

mysql> select * from shop;
+---------+---------------+---------------------+----------------+---------------+---------------+-------------+----------------+
| shop_id | name          | location            | contact_number | opening_hours | closing_hours | category_id | overall_rating |
+---------+---------------+---------------------+----------------+---------------+---------------+-------------+----------------+
|       1 | Tasty Treats  | 123 Main Street     | 123-456-7890   | 08:00:00      | 20:00:00      |           1 |            4.1 |
|       2 | Coffee Corner | 456 Oak Avenue      | 987-654-3210   | 07:00:00      | 19:00:00      |           2 |              4 |
|       3 | Sweet Delights| 789 Elm Road        | 555-123-4567   | 09:00:00      | 18:00:00      |           3 |            4.2 |
|       4 | Sizzling Grill| 321 Pine Lane       | 333-444-5555   | 10:00:00      | 22:00:00      |           1 |              4 |
|       5 | Cozy Cafe     | 555 Cedar Street    | 777-888-9999   | 08:30:00      | 17:30:00      |           2 |            4.1 |
|       6 | Fresh Bakery  | 777 Maple Avenue    | 111-222-3333   | 07:30:00      | 18:30:00      |           3 |            3.8 |
|       7 | Spice Haven   | 999 Walnut Boulevard| 444-555-6666   | 11:00:00      | 21:00:00      |           1 |            4.2 |
+---------+---------------+---------------------+----------------+---------------+---------------+-------------+----------------+
7 rows in set (0.00 sec)

mysql> select * from shop_category;
+-------------+---------------+
| category_id | category_name |
+-------------+---------------+
|           1 | Restaurant    |
|           2 | Cafe          |
|           3 | Bakery        |
+-------------+---------------+
3 rows in set (0.00 sec)
```

```
mysql> select * from menu;
+---------+---------+
| menu_id | shop_id |
+---------+---------+
|       1 |       1 |
|       2 |       2 |
|       3 |       3 |
|       4 |       4 |
|       5 |       5 |
|       6 |       6 |
|       7 |       7 |
+---------+---------+
7 rows in set (0.00 sec)

mysql> select * from menuitem;
+---------+---------+---------------------+------------------------------------------------------------------+-------+
| item_id | menu_id | item_name           | description                                                      | price |
+---------+---------+---------------------+------------------------------------------------------------------+-------+
|       1 |       1 | Steak Dinner        | Juicy steak served with mashed potatoes and vegetables           | 20.99 |
|       2 |       1 | Salmon Fillet       | Grilled salmon served with rice pilaf and salad                  | 18.99 |
|       3 |       1 | Vegetarian Pasta    | Penne pasta with assorted vegetables in marinara sauce           | 15.99 |
|       4 |       2 | Espresso            | Strong black coffee                                              |  3.49 |
|       5 |       2 | Cappuccino          | Espresso mixed with steamed milk and topped with foam            |  4.99 |
|       6 |       2 | Latte               | Espresso mixed with steamed milk                                 |  4.49 |
|       7 |       3 | Assorted Cupcakes   | Variety of cupcakes with different frosting flavors              |  2.99 |
|       8 |       3 | Chocolate Croissant | Flaky pastry filled with chocolate                               |  2.49 |
|       9 |       3 | Blueberry Muffin    | Moist muffin filled with blueberries                             |  1.99 |
|      10 |       4 | BBQ Ribs            | Tender BBQ ribs served with coleslaw and fries                   | 16.99 |
|      11 |       4 | Grilled Chicken     | Marinated grilled chicken breast with roasted vegetables         | 14.99 |
|      12 |       4 | Pulled Pork Sandwich| Slow-cooked pulled pork served on a bun with BBQ sauce           | 10.99 |
|      13 |       5 | Club Sandwich       | Triple-decker sandwich with turkey, bacon, lettuce, and tomato   |  9.99 |
|      14 |       5 | Avocado Toast       | Toasted bread topped with mashed avocado and cherry tomatoes     |  7.99 |
|      15 |       5 | Caesar Salad        | Romaine lettuce, croutons, and Parmesan cheese tossed in Caesar dressing |  8.99 |
|      16 |       6 | Baguette            | Freshly baked French baguette                                    |  3.99 |
|      17 |       6 | Chocolate Eclair    | Light pastry filled with chocolate cream and topped with ganache |  4.49 |
|      18 |       6 | Apple Pie           | Classic apple pie with a flaky crust                             |  5.99 |
|      19 |       7 | Chicken Tikka Masala| Tender chicken cooked in a creamy tomato sauce                   | 12.99 |
|      20 |       7 | Vegetable Biryani   | Fragrant basmati rice cooked with mixed vegetables and spices    | 10.99 |
|      21 |       7 | Garlic Naan         | Soft and fluffy bread with garlic flavor                         |  2.49 |
+---------+---------+---------------------+------------------------------------------------------------------+-------+
21 rows in set (0.00 sec)
```

```
mysql> select * from review;
+-----------+----------------+--------------+----------------+------------------------------------------------+---------+
| review_id | hygiene_rating | price_rating | overall_rating | comments                                       | shop_id |
+-----------+----------------+--------------+----------------+------------------------------------------------+---------+
|         8 |              5 |            4 |            4.5 | Excellent food and service!                    |       1 |
|         9 |              4 |            3 |            3.5 | Good variety but a bit pricey.                 |       1 |
|        10 |              5 |            5 |              5 | Absolutely amazing experience!                 |       1 |
|        11 |              3 |            3 |              3 | Average quality, needs improvement.            |       1 |
|        12 |              4 |            5 |            4.5 | Great atmosphere and delicious food.           |       1 |
|        13 |              4 |            4 |              4 | Fantastic coffee and cozy ambiance.            |       2 |
|        14 |              5 |            3 |              4 | Good place to relax and enjoy coffee.          |       2 |
|        15 |              3 |            4 |            3.5 | Decent service but coffee could be better.     |       2 |
|        16 |              5 |            5 |              5 | Love the variety of coffee options!            |       2 |
|        17 |              4 |            3 |            3.5 | Average coffee, nothing special.               |       2 |
|        18 |              5 |            5 |              5 | Delicious pastries and friendly staff.         |       3 |
|        19 |              4 |            4 |              4 | Freshly baked goods, highly recommend.         |       3 |
|        20 |              3 |            4 |            3.5 | Good selection but a bit overpriced.           |       3 |
|        21 |              5 |            3 |              4 | Love the desserts, will come back!             |       3 |
|        22 |              4 |            5 |            4.5 | Great bakery with tasty treats.                |       3 |
|        23 |              4 |            4 |              4 | Awesome BBQ and friendly service.              |       4 |
|        24 |              5 |            5 |              5 | Best steakhouse in town, hands down!           |       4 |
|        25 |              3 |            3 |              3 | Average food quality, could improve.           |       4 |
|        26 |              4 |            3 |            3.5 | Decent menu but portions are small.            |       4 |
|        27 |              5 |            4 |            4.5 | Excellent flavors and presentation.            |       4 |
|        28 |              5 |            4 |            4.5 | Love the cozy ambiance and tasty sandwiches.   |       5 |
|        29 |              4 |            5 |            4.5 | Great place for brunch, friendly staff.        |       5 |
|        30 |              3 |            3 |              3 | Average food, nothing special.                 |       5 |
|        31 |              5 |            4 |            4.5 | Enjoyable dining experience, will return.      |       5 |
|        32 |              4 |            4 |              4 | Good variety on the menu, reasonable prices.   |       5 |
|        33 |              3 |            4 |            3.5 | Decent selection of bread but service is slow. |       6 |
|        34 |              4 |            3 |            3.5 | Freshly baked bread, could be warmer.          |       6 |
|        35 |              5 |            5 |              5 | Love the pastries and friendly atmosphere.     |       6 |
|        36 |              4 |            4 |              4 | Delicious cakes and pies!                      |       6 |
|        37 |              3 |            3 |              3 | Average bakery, needs improvement.             |       6 |
|        38 |              4 |            5 |            4.5 | Amazing flavors, love the spicy dishes!        |       7 |
|        39 |              5 |            4 |            4.5 | Great service and variety of dishes.           |       7 |
|        40 |              3 |            3 |              3 | Average quality, could be better.              |       7 |
|        41 |              4 |            4 |              4 | Good portion sizes and reasonable prices.      |       7 |
|        42 |              5 |            5 |              5 | Best Indian food in town!                      |       7 |
+-----------+----------------+--------------+----------------+------------------------------------------------+---------+
35 rows in set (0.00 sec)
```

QUERIES CONSTRAINTS

Query to Add a NOT NULL Constraint to an Existing Column:

ALTER TABLE Shop

MODIFY overall_rating FLOAT NOT NULL;

```
mysql> ALTER TABLE Shop
    -> MODIFY overall_rating FLOAT NOT NULL;
Query OK, 0 rows affected (0.13 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

Query to Add a UNIQUE Constraint to an Existing Column:

ALTER TABLE Shop

ADD CONSTRAINT unique_contact_number UNIQUE (contact_number);

```
mysql> ALTER TABLE Shop
    -> ADD CONSTRAINT unique_contact_number UNIQUE (contact_number);
ERROR 1061 (42000): Duplicate key name 'unique_contact_number'
```

Query to Add a FOREIGN KEY Constraint to an Existing Table:

ALTER TABLE Shop

ADD CONSTRAINT fk_category_id FOREIGN KEY (category_id) REFERENCES

Shop_Category(category_id);

```
mysql> ALTER TABLE Shop
    -> ADD CONSTRAINT fk_category_id FOREIGN KEY (category_id) REFERENCES
    -> Shop_Category(category_id);
Query OK, 7 rows affected (0.09 sec)
Records: 7  Duplicates: 0  Warnings: 0
```

Query to Add a NOT NULL Constraint to Multiple Columns:

ALTER TABLE Shop

MODIFY name VARCHAR(255) NOT NULL,

MODIFY location VARCHAR(255) NOT NULL,

MODIFY contact_number VARCHAR(20) NOT NULL;

```
mysql> ALTER TABLE Shop
    -> MODIFY name VARCHAR(255) NOT NULL,
    -> MODIFY location VARCHAR(255) NOT NULL,
    -> MODIFY contact_number VARCHAR(20) NOT NULL;
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

Query to Add a UNIQUE Constraint to a Combination of Columns:

ALTER TABLE Shop

ADD CONSTRAINT unique_name_location UNIQUE (name, location);

```
mysql> ALTER TABLE Shop
    -> ADD CONSTRAINT unique_name_location UNIQUE (name, location);
Query OK, 0 rows affected (0.05 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

AGGREGATE FUNCTIONS

Count the total number of shops registered:

SELECT COUNT(*) AS total_registered_shops

FROM Shop;

```
mysql> SELECT COUNT(*) AS total_registered_shops
    -> FROM Shop;
+------------------------+
| total_registered_shops |
+------------------------+
|                      7 |
+------------------------+
1 row in set (0.00 sec)
```

Calculate the Average Rating of the Shops:

SELECT AVG(overall_rating) AS average_rating_of_shops

FROM Shop;

```
mysql> SELECT AVG(overall_rating) AS average_rating_of_shops
    -> FROM Shop;
+-------------------------+
| average_rating_of_shops |
+-------------------------+
|       4.0367346150553449 |
+-------------------------+
1 row in set (0.00 sec)
```

Find the shop which has the maximum number of reviews on it:

SELECT shop_id, COUNT(*) AS review_count

FROM Review

GROUP BY shop_id

ORDER BY review_count DESC

LIMIT 1;

```
mysql> SELECT shop_id, COUNT(*) AS review_count
    -> FROM Review
    -> GROUP BY shop_id
    -> ORDER BY review_count DESC
    -> LIMIT 1;
+---------+--------------+
| shop_id | review_count |
+---------+--------------+
|       2 |            7 |
+---------+--------------+
1 row in set (0.00 sec)
```

Determine the number of reviews received by each shop:

SELECT shop_id, COUNT(*) AS review_count

FROM Review

GROUP BY shop_id;

```
mysql> SELECT shop_id, COUNT(*) AS review_count
    -> FROM Review
    -> GROUP BY shop_id;
+---------+--------------+
| shop_id | review_count |
+---------+--------------+
|       1 |            5 |
|       2 |            7 |
|       3 |            5 |
|       4 |            5 |
|       5 |            5 |
|       6 |            5 |
|       7 |            5 |
+---------+--------------+
7 rows in set (0.00 sec)
```

Calculate the average number of reviews per shop:

SELECT AVG(review_count) AS average_reviews_per_shop

FROM (

    SELECT COUNT(*) AS review_count

    FROM Review

    GROUP BY shop_id

) AS shop_reviews;

```
mysql> SELECT AVG(review_count) AS average_reviews_per_shop
    -> FROM (
    ->      SELECT COUNT(*) AS review_count
    ->      FROM Review
    ->      GROUP BY shop_id
    -> ) AS shop_reviews;
+--------------------------+
| average_reviews_per_shop |
+--------------------------+
|                   5.2857 |
+--------------------------+
1 row in set (0.00 sec)
```

JOINS

Join to Retrieve Shop details with their locations:

SELECT s.shop_id, s.name AS shop_name, s.location, s.contact_number, s.opening_hours, s.closing_hours, s.category_id, s.overall_rating

FROM Shop s;

```
mysql> SELECT s.shop_id, s.name AS shop_name, s.location, s.contact_number, s.opening_hours, s.closing_hours, s.category_id, s.overall_rating
    -> FROM Shop s;
+---------+----------------+---------------------+----------------+---------------+---------------+-------------+----------------+
| shop_id | shop_name      | location            | contact_number | opening_hours | closing_hours | category_id | overall_rating |
+---------+----------------+---------------------+----------------+---------------+---------------+-------------+----------------+
|       1 | Tasty Treats   | 123 Main Street     | 123-456-7890   | 08:00:00      | 20:00:00      |           1 |            4.1 |
|       2 | Coffee Corner  | 456 Oak Avenue      | 987-654-3210   | 07:00:00      | 19:00:00      |           2 |        3.85714 |
|       3 | Sweet Delights | 789 Elm Road        | 555-123-4567   | 09:00:00      | 18:00:00      |           3 |            4.2 |
|       4 | Sizzling Grill | 321 Pine Lane       | 333-444-5555   | 10:00:00      | 22:00:00      |           1 |              4 |
|       5 | Cozy Cafe      | 555 Cedar Street    | 777-888-9999   | 08:30:00      | 17:30:00      |           2 |            4.1 |
|       6 | Fresh Bakery   | 777 Maple Avenue    | 111-222-3333   | 07:30:00      | 18:30:00      |           3 |            3.8 |
|       7 | Spice Haven    | 999 Walnut Boulevard| 444-555-6666   | 11:00:00      | 21:00:00      |           1 |            4.2 |
+---------+----------------+---------------------+----------------+---------------+---------------+-------------+----------------+
7 rows in set (0.00 sec)
```

Left Join to Include Shops and their menu items:

SELECT s.shop_id, s.name AS shop_name, s.location, s.contact_number, s.opening_hours, s.closing_hours, s.category_id, s.overall_rating,

   m.menu_id, m.item_name, m.description, m.price

FROM Shop s

LEFT JOIN Menu m ON s.shop_id = m.shop_id;

Self-Join to Find Shops with same overall ratings:

SELECT s1.shop_id AS shop_id_1, s1.name AS shop_name_1, s1.overall_rating AS rating_1,

   s2.shop_id AS shop_id_2, s2.name AS shop_name_2, s2.overall_rating AS rating_2

FROM Shop s1

JOIN Shop s2 ON s1.overall_rating = s2.overall_rating AND s1.shop_id < s2.shop_id;

```
mysql> SELECT s1.shop_id AS shop_id_1, s1.name AS shop_name_1, s1.overall_rating AS rating_1,
    ->        s2.shop_id AS shop_id_2, s2.name AS shop_name_2, s2.overall_rating AS rating_2
    -> FROM Shop s1
    -> JOIN Shop s2 ON s1.overall_rating = s2.overall_rating AND s1.shop_id < s2.shop_id;
+-----------+----------------+----------+-----------+-------------+----------+
| shop_id_1 | shop_name_1    | rating_1 | shop_id_2 | shop_name_2 | rating_2 |
+-----------+----------------+----------+-----------+-------------+----------+
|         1 | Tasty Treats   |      4.1 |         5 | Cozy Cafe   |      4.1 |
|         3 | Sweet Delights |      4.2 |         7 | Spice Haven |      4.2 |
+-----------+----------------+----------+-----------+-------------+----------+
2 rows in set (0.00 sec)
```

SETS OPERATIONS

Union to Get Combined List of Shops, locations and timings:

SELECT name AS info, location AS location_or_timing

FROM Shop

UNION

SELECT CONCAT('Opening Hours: ', opening_hours, ' - ', closing_hours), location

FROM Shop;

```
mysql> SELECT name AS info, location AS location_or_timing
    -> FROM Shop
    -> UNION
    -> SELECT CONCAT('Opening Hours: ', opening_hours, ' - ', closing_hours), location
    -> FROM Shop;
+-----------------------------------+----------------------+
| info                              | location_or_timing   |
+-----------------------------------+----------------------+
| Coffee Corner                     | 456 Oak Avenue       |
| Cozy Cafe                         | 555 Cedar Street     |
| Fresh Bakery                      | 777 Maple Avenue     |
| Sizzling Grill                    | 321 Pine Lane        |
| Spice Haven                       | 999 Walnut Boulevard |
| Sweet Delights                    | 789 Elm Road         |
| Tasty Treats                      | 123 Main Street      |
| Opening Hours: 08:00:00 - 20:00:00 | 123 Main Street     |
| Opening Hours: 07:00:00 - 19:00:00 | 456 Oak Avenue      |
| Opening Hours: 09:00:00 - 18:00:00 | 789 Elm Road        |
| Opening Hours: 10:00:00 - 22:00:00 | 321 Pine Lane       |
| Opening Hours: 08:30:00 - 17:30:00 | 555 Cedar Street    |
| Opening Hours: 07:30:00 - 18:30:00 | 777 Maple Avenue    |
| Opening Hours: 11:00:00 - 21:00:00 | 999 Walnut Boulevard |
+-----------------------------------+----------------------+
14 rows in set (0.00 sec)
```

Intersect to Find Shops which are on same location :

SELECT location

FROM Shop

GROUP BY location

HAVING COUNT(*) > 1;

```
mysql> SELECT location
    -> FROM Shop
    -> GROUP BY location
    -> HAVING COUNT(*) > 1;
Empty set (0.00 sec)
```

VIEWS

view shops with most reviews:

SELECT s.name AS shop_name, s.location, COUNT(r.review_id) AS review_count

FROM Shop s

LEFT JOIN Review r ON s.shop_id = r.shop_id

GROUP BY s.shop_id

ORDER BY review_count DESC;

```
mysql> select * from shopswithmostreviews;
+---------------+----------------------+--------------+
| shop_name     | location             | review_count |
+---------------+----------------------+--------------+
| Coffee Corner | 456 Oak Avenue       |            7 |
| Tasty Treats  | 123 Main Street      |            5 |
| Sweet Delights| 789 Elm Road         |            5 |
| Sizzling Grill| 321 Pine Lane        |            5 |
| Cozy Cafe     | 555 Cedar Street     |            5 |
| Fresh Bakery  | 777 Maple Avenue     |            5 |
| Spice Haven   | 999 Walnut Boulevard |            5 |
+---------------+----------------------+--------------+
7 rows in set (0.00 sec)
```

View for shops with average rating :

CREATE VIEW ShopWithAverageRatings AS

SELECT s.*, AVG(r.overall_rating) AS average_rating

FROM Shop s

LEFT JOIN Review r ON s.shop_id = r.shop_id

GROUP BY s.shop_id;

```
mysql> select * from ShopWithAverageRatings;
+---------+----------------+----------------------+----------------+---------------+---------------+-------------+----------------+-------------------+
| shop_id | name           | location             | contact_number | opening_hours | closing_hours | category_id | overall_rating | average_rating    |
+---------+----------------+----------------------+----------------+---------------+---------------+-------------+----------------+-------------------+
|       1 | Tasty Treats   | 123 Main Street      | 123-456-7890   | 08:00:00      | 20:00:00      |           1 |            4.1 | 4.1               |
|       2 | Coffee Corner  | 456 Oak Avenue       | 987-654-3210   | 07:00:00      | 19:00:00      |           2 |        3.85714 | 3.857142857142857 |
|       3 | Sweet Delights | 789 Elm Road         | 555-123-4567   | 09:00:00      | 18:00:00      |           3 |            4.2 | 4.2               |
|       4 | Sizzling Grill | 321 Pine Lane        | 333-444-5555   | 10:00:00      | 22:00:00      |           1 |              4 | 4                 |
|       5 | Cozy Cafe      | 555 Cedar Street     | 777-888-9999   | 08:30:00      | 17:30:00      |           2 |            4.1 | 4.1               |
|       6 | Fresh Bakery   | 777 Maple Avenue     | 111-222-3333   | 07:30:00      | 18:30:00      |           3 |            3.8 | 3.8               |
|       7 | Spice Haven    | 999 Walnut Boulevard | 444-555-6666   | 11:00:00      | 21:00:00      |           1 |            4.2 | 4.2               |
+---------+----------------+----------------------+----------------+---------------+---------------+-------------+----------------+-------------------+
7 rows in set (0.00 sec)
```

View for top rated shop by category:

CREATE VIEW ServiceRequestStats AS

SELECT employee_id, COUNT(*) AS total_requests_handled

FROM Service_Requests

GROUP BY employee_id;

```
mysql> select * from topratedshopsbycategory;
+---------------+----------------+-----------------------+----------------+----------------+
| category_name | shop_name      | location              | contact_number | overall_rating |
+---------------+----------------+-----------------------+----------------+----------------+
| Restaurant    | Spice Haven    | 999 Walnut Boulevard  | 444-555-6666   |            4.2 |
| Cafe          | Cozy Cafe      | 555 Cedar Street      | 777-888-9999   |            4.1 |
| Bakery        | Sweet Delights | 789 Elm Road          | 555-123-4567   |            4.2 |
+---------------+----------------+-----------------------+----------------+----------------+
3 rows in set (0.00 sec)
```

```
mysql> CREATE VIEW ServiceRequestStats AS
    -> SELECT employee_id, COUNT(*) AS total_requests_handled
    -> FROM Service_Requests
    -> GROUP BY employee_id;
Query OK, 0 rows affected (0.03 sec)

mysql>
mysql> SELECT * from servicerequeststats;
+-------------+------------------------+
| employee_id | total_requests_handled |
+-------------+------------------------+
|           1 |                      1 |
|           2 |                      1 |
|           3 |                      1 |
|           4 |                      1 |
|           5 |                      1 |
|           6 |                      1 |
|           7 |                      1 |
+-------------+------------------------+
7 rows in set (0.00 sec)

mysql>
```

TRIGGERS

Trigger to Update Reviews of a Shop:

-- Trigger to update overall_rating in Review table when a new review is added or an existing one is updated

DELIMITER $$

CREATE TRIGGER update_overall_rating

AFTER INSERT ON Review

FOR EACH ROW

BEGIN

    DECLARE total_reviews INT;

```sql
    DECLARE total_ratings FLOAT;


    -- Calculate total reviews and ratings for the shop
    SELECT COUNT(*), SUM(hygiene_rating + price_rating) INTO total_reviews, total_ratings
    FROM Review
    WHERE shop_id = NEW.shop_id;


    -- Update overall_rating in Shop table
    UPDATE Shop
    SET overall_rating = total_ratings / (total_reviews * 2)
    WHERE shop_id = NEW.shop_id;
END$$
DELIMITER ;
```

Trigger to Delete a Review of a Shop:

```sql
-- Trigger to update overall_rating in Shop table when a review is deleted
DELIMITER $$
CREATE TRIGGER update_overall_rating_on_delete
AFTER DELETE ON Review
FOR EACH ROW
BEGIN
    DECLARE total_reviews INT;
    DECLARE total_ratings FLOAT;


    -- Calculate total reviews and ratings for the shop
    SELECT COUNT(*), SUM(hygiene_rating + price_rating) INTO total_reviews, total_ratings
    FROM Review
    WHERE shop_id = OLD.shop_id;
```

-- Update overall_rating in Shop table

UPDATE Shop

SET overall_rating = total_ratings / (total_reviews * 2)

WHERE shop_id = OLD.shop_id;

END$$

DELIMITER ;

CURSORS

Cursor to Iterate Over the Reviews:

-- Stored Procedure to iterate over reviews for a specific shop

DELIMITER $$

CREATE PROCEDURE IterateReviewsForShop(IN shopID INT)

BEGIN

    DECLARE done_reviews BOOLEAN DEFAULT FALSE;

    DECLARE review_id INT;

    DECLARE hygiene_rating INT;

    DECLARE price_rating INT;

    DECLARE overall_rating FLOAT;

    DECLARE comments TEXT;

    -- Declare cursor for iterating over reviews

    DECLARE cur_reviews CURSOR FOR

        SELECT review_id, hygiene_rating, price_rating, overall_rating, comments

        FROM Review

        WHERE shop_id = shopID;

    -- Declare continue handler to exit loop

    DECLARE CONTINUE HANDLER FOR NOT FOUND SET done_reviews = TRUE;

```sql
    -- Open cursor

    OPEN cur_reviews;


    -- Start iterating over reviews

    read_reviews_loop: LOOP

        -- Fetch review data into variables

        FETCH cur_reviews INTO review_id, hygiene_rating, price_rating, overall_rating,
comments;


        -- Exit loop if no more rows

        IF done_reviews THEN

            LEAVE read_reviews_loop;

        END IF;


        -- Print out information about the review

        SELECT CONCAT('Review ID: ', review_id, ', Hygiene Rating: ', hygiene_rating, ', Price
Rating: ', price_rating, ', Overall Rating: ', overall_rating, ', Comments: ', comments) AS
Review_Info;

    END LOOP;


    -- Close cursor

    CLOSE cur_reviews;
END$$

DELIMITER ;
```