CS586 Introduction to Databases
Fall 2021 Quarter

SUBMITTED BY: Agnita, Raghavendra

Part 3, Part 2, Part 1 have been presented beginning page 4

Graduate Project Database Implementation

NOTE: I posted this early so you can take a peek at it. Effectively, you can start on part 1 anytime, but for parts 2 and 3, you need to wait until we've discussed schema design.

Assigned: Thursday, Nov 4th

Due Dates (everything submitted on Canvas):

1. Domain Description and Data Source - Friday, Nov 12th, 11:59pm
2. ER Diagram and Relational Schema - Monday, Nov 29th, 11:59pm
3. Final Write-up with Queries and Results - Thursday, Dec 9th, 11:59pm

This project is for CS 586 students only.

You may do this assignment individually or you may work with one partner. That is, this assignment is to be completed by individuals or by teams of two students. If you work with a partner, you need only turn in one assignment, but please do put both of your names on the assignment. All submissions are through Canvas, you may submit PDF files or a GitHub link that you update throughout the project.

Project Overview

The goal of this project is to gain experience with database design and implementation. You will choose a subject area (for example, food carts or campus sports teams) on which to implement a database, then you will create a database for that subject and then run queries over that database.

Submissions

There are three submissions for this project.

1. Data Description: a) Select a subject area on which you wish to build a database. Write approximately one paragraph that gives a general description / background information on that subject area. b) List 20 questions (in English) that someone might want to ask about the domain. c) Describe what source you intend to use for data, and *how you intend to ingest the*

data into your database. You should choose a subject area where you can easily get several hundred rows of data.

Notes: You will translate the questions from this part into queries in the third part of the project. In addition, you will be permitted to revise these questions later if needed.

2. ER Diagram and Relational Schema: Produce an ER diagram for your domain, and its translation into a relational schema, including all keys and foreign keys. You should aim for a database with 6 – 10 tables. You should also submit evidence that you have created at least one table from your schema and populated it with at least one row.

3. Final Write-up: You are to implement your schema in a relational database and populate it with data. The preferred DBMS is Postgres. If you want to use a different DBMS, you must get advanced approval. You then need to translate your 20 questions into SQL and execute them on your database. Your write-up of these activities should include the following:

- Your ER diagram, showing any changes you made during the implementation process
- The CREATE TABLE statements for your database
- A brief description of how you populated the database
- For each of your 20 questions, the question in English, its translation to SQL and the (full) answer to the query. (If you needed to change any of your original questions, also list the originals and why you needed to change or replace them.)
- A listing of 5 rows from each of your tables

Please submit your write-up as a single PDF or as a link to a github page.

Grading

Submission 1 is worth 10 points. Grading will be based on:

- Completion of the requirements
- Suitability and realistic-ness of data source
    - We are looking for realistic data sets and scenarios
    - The ideal data source demonstrates enough complexity to get 6-10 tables and inclusion of a variety of data types and attributes
- Variety of and complexity of questions; that is you should aim for questions that will translate to a variety of SQL constructs - simple selects, joins, group by, aggregate, set operators, etc.

Submission 2 is worth 20 points. Grading will be based on:

- Completion of the requirements
- Realism of design - does your design effectively represent the corresponding real-world domain?
- Variety in the model - include entities, attributes, relationships with different cardinality

constraints, consider relationship attributes, etc.

Submission 3 is worth 70 points. Grading will be based on:

- Correct translation of questions from Part 1 into queries.
- Demonstrates a variety of schema and SQL features (variety of data types, keys, foreign keys, other constraints, variety of types of queries - joins, aggregates, selects, subqueries)
- Effectiveness of data entry - were you able to avoid large amounts of manual data entry?
- Effectiveness of presentation.

Project Name: Online Restaurant Management System

Contributors: Agnita, Raghavendra

Part - 3

Deliverables:

3. Final Write-up: You are to implement your schema in a relational database and populate it with data. The preferred DBMS is Postgres. If you want to use a different DBMS, you must get advanced approval. You then need to translate your 20 questions into SQL and execute them on your database. Your write-up of these activities should include the following:

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- Effectiveness of data entry - were you able to avoid large amounts of manual data entry?
- Effectiveness of presentation.

SUBMISSION:

- Your ER diagram, showing any changes you made during the implementation process

There are no changes in ER diagrams submitted in part 2 of this project (refer part 2 deliverable below in this document).

- CREATE TABLE statements for the database:

- CREATE TABLE **chef** (chef_id INT, chef_name VARCHAR(255), chef_salary float, cuisine VARCHAR(255), chef_experience INT, PRIMARY KEY(chef_id));

- CREATE TABLE **supplier** (supplier_id INT, supplier_name VARCHAR(255), supplier_phone INT, supplier_city VARCHAR(255), PRIMARY KEY(supplier_id));

- CREATE TABLE **provides** (supplier_id INT, ingredient_id INT);
    - ALTER TABLE **provides** ADD FOREIGN KEY (supplier_id) REFERENCES supplier(supplier_id);
    - ALTER TABLE **provides** ADD FOREIGN KEY (ingredient_id) REFERENCES ingredients(ingredient_id);

- CREATE TABLE **ingredients** (ingredient_id INT, ingredient_name VARCHAR(255), ingredient_description VARCHAR(255), PRIMARY KEY(ingredient_id));

- CREATE TABLE **meal** (meal_id INT, meal_name VARCHAR(255), meal_price float, chef_id INT, PRIMARY KEY(meal_id));
    - ALTER TABLE **meal** ADD FOREIGN KEY (chef_id) REFERENCES chef(chef_id);

- CREATE TABLE **waiter** (waiter_id INT, waiter_name VARCHAR(255), waiter_salary float, waiter_phone INT,waiter_experience INT, PRIMARY KEY(waiter_id));

- CREATE TABLE **customer** (customer_id INT, customer_name VARCHAR(255), customer_address VARCHAR(255), customer_phone INT, waiter_id INT, PRIMARY KEY(customer_id));
    - ALTER TABLE **customer** ADD FOREIGN KEY (waiter_id) REFERENCES waiter(waiter_id);

- CREATE TABLE **orders** (customer_id INT ,meal_id INT, CONSTRAINT FK_customerorder FOREIGN KEY (customer_id) REFERENCES customer(customer_id), CONSTRAINT FK_mealorder FOREIGN KEY (meal_id) REFERENCES meal(meal_id));
    - ALTER TABLE **orders** ADD FOREIGN KEY (customer_id) REFERENCES customer(customer_id);
    - ALTER TABLE **orders** ADD FOREIGN KEY (meal_id) REFERENCES meal(meal_id);

- A brief description of how you populated the database
  We populated data in csv files and imported those csv files to the database using terminal.

- For each of your 20 questions, the question in English, its translation to SQL and the (full) answer to the query. (If you needed to change any of your original questions, also list the originals and why you needed to change or replace them.)

Some of the answers in the questions below have been trimmed to only a few lines because the result is very large.

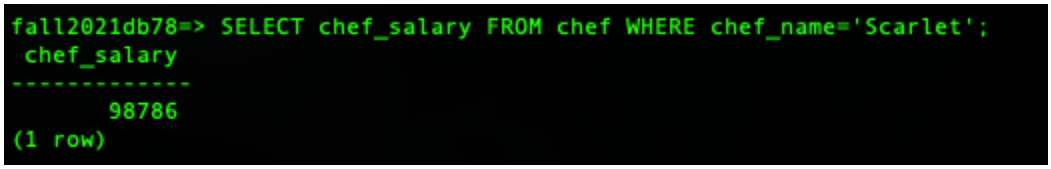
We did not change any questions during this submission. We populated 23 questions during our part 1 and part 2 submissions. Out of those 23 questions, we wrote SQL queries only for the first 20 and discarded the rest of the 3 questions during part 3 submission.

1. Who are all the chefs in this restaurant?

   SELECT chef_name FROM chef;

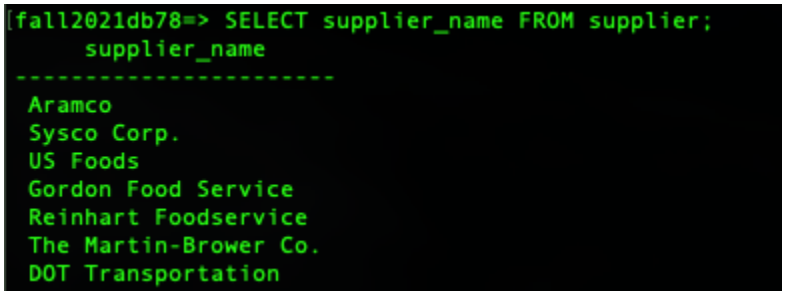
2. How much salary does the chef make?

   SELECT chef_salary FROM chef WHERE chef_name='Scarlet';



3. What are the names of the suppliers?

   SELECT supplier_name FROM supplier;



4. What is the address of a particular supplier?

   SELECT supplier_name, supplier_city FROM supplier WHERE supplier_name='US Foods';

```
fall2021db78=> SELECT supplier_name, supplier_city FROM supplier WHERE supplier_name='US Foods';
 supplier_name | supplier_city
---------------+---------------
 US Foods      | Lansing
(1 row)
```

5. Customer details such as name or address or phone number?

   SELECT customer_name, customer_address FROM customer;

```
fall2021db78=>  SELECT customer_name, customer_address FROM customer;
 customer_name |           customer_address
---------------+--------------------------------------
 LoriBall      | 26 NW st Tigard 97224
 Jenifer       | 21 SW st Beaverton 97229
 Davis L       | 11  NW kent  st KingCity  97224
 Lee           | 200  North Ave Tigard 97223
 Poland        | 106 NW Pick ct Beaverton 97226
 Andrew        | 222 NW Western st Tigard 97224
 KenBall       | 211  NW Snow Ave Beaverton 97226
 Little Jr     | 26 NW Bent st KingCity  97224
 Sunny Jr      | 20  NW Sun st Tigard 97224
 Larry         | 1234 sunflower st  Tigard 97225
 Rose Wood     | 346 Eagle  st KingCity  97224
```

6. Which waiter served a particular customer?

   SELECT waiter.waiter_name, customer.customer_name FROM waiter
   JOIN customer ON waiter.waiter_id = customer.waiter_id
   WHERE customer_name='Larry';

```
fall2021db78=>  SELECT waiter.waiter_name, customer.customer_name FROM waiter
fall2021db78-> JOIN customer ON waiter.waiter_id = customer.waiter_id
fall2021db78-> WHERE customer_name='Larry';
 waiter_name | customer_name
-------------+---------------
 Lori        | Larry
(1 row)
```

7. What is the price of a particular meal?

```
SELECT meal_name, meal_price FROM meal WHERE meal_name ='Pad See Eiw';
```

```
fall2021db78=> SELECT meal_name, meal_price FROM meal WHERE meal_name ='Pad See Eiw';
  meal_name   | meal_price
--------------+------------
 Pad See Eiw |      12.99
(1 row)
```

8. Which chef prepares a particular dish?

```
SELECT chef.chef_name, meal.meal_name FROM chef
JOIN meal ON chef.chef_id = meal.chef_id
WHERE meal_name ='Enchiladas';
```

```
fall2021db78=> SELECT chef.chef_name, meal.meal_name FROM chef
fall2021db78-> JOIN meal ON chef.chef_id = meal.chef_id
fall2021db78-> WHERE meal_name ='Enchiladas';
 chef_name | meal_name
-----------+------------
 John      | Enchiladas
(1 row)
```

9. Which customer ordered which meal?

```
SELECT customer.customer_name, meal.meal_name FROM meal
JOIN orders ON meal.meal_id = orders.meal_id
JOIN customer ON orders.customer_id = customer.customer_id;
```

```
fall2021db78=> SELECT customer.customer_name, meal.meal_name FROM meal
fall2021db78-> JOIN orders ON meal.meal_id = orders.meal_id
fall2021db78-> JOIN customer ON orders.customer_id = customer.customer_id;
 customer_name |       meal_name
---------------+-----------------------
 LoriBall      | Pizza
 LoriBall      | Som Tam
 LoriBall      | Tacos de carne Asada
 Jenifer       | Enchiladas
 Jenifer       | Tempura
 Jenifer       | Tom Kha Gai
 Davis         | Pizza
```

10. List all the suppliers from a particular city?

```
SELECT supplier_name, supplier_city FROM supplier WHERE supplier_city='Troy';
```

```
fall2021db78=> SELECT supplier_name, supplier_city FROM supplier WHERE supplier_city='Troy';
    supplier_name    | supplier_city
---------------------+---------------
 Gordon Food Service | Troy
 McLane Foodservice  | Troy
(2 rows)
```

11. List salaries of all the waiters who have a minimum 5 years of experience?

```
SELECT waiter_name, waiter_salary, waiter_experience FROM waiter
WHERE waiter_experience>4;
```

```
fall2021db78=> SELECT waiter_name, waiter_salary, waiter_experience FROM waiter
fall2021db78-> WHERE waiter_experience>4;
  waiter_name   | waiter_salary | waiter_experience
----------------+---------------+-------------------
 Jade           |         50000 |                 7
 Sam            |         50000 |                 7
 Sony           |         50000 |                 7
 John Jay Rich  |         60000 |                 8
 LunaJay        |         35000 |                 5
 Samsung        |         60000 |                 8
(6 rows)
```

12. Which ingredient is supplied by which supplier?

```
SELECT ingredient_name,supplier.supplier_name FROM supplier
JOIN provides ON supplier.supplier_id = provides.supplier_id
JOIN ingredients ON provides.ingredient_id=ingredients.ingredient_id;
```

```
fall2021db78=> SELECT ingredient_name,supplier.supplier_name FROM supplier
fall2021db78-> JOIN provides ON supplier.supplier_id = provides.supplier_id
fall2021db78-> JOIN ingredients ON provides.ingredient_id=ingredients.ingredient_id;
  ingredient_name  |     supplier_name
-------------------+----------------------
 Unsalted Butter   | Aramco
 Vegetable Oil     | Sysco Corp.
 Rice              | US Foods
 Egg               | McLane Foodservice
 Salt              | Gordon Food Service
 sugar             | Reinhart Foodservice
 Chicken           | The Martin-Brower Co.
 All purpose flour | DOT Transportation
 Olive Oil         | Ben E. Keith Co.
 balsamic vinegar  | Golden State Foods
(10 rows)
```

13. What are all the ingredients supplied by a particular supplier?

```
SELECT ingredient_name, supplier_name FROM ingredients
JOIN provides ON ingredients.ingredient_id = provides.ingredient_id
JOIN supplier ON provides.supplier_id = supplier.supplier_id
WHERE supplier_name='Golden State Foods';
```

```
fall2021db78=> SELECT ingredient_name, supplier_name FROM ingredients
fall2021db78-> JOIN provides ON ingredients.ingredient_id = provides.ingredient_id
fall2021db78-> JOIN supplier ON provides.supplier_id = supplier.supplier_id
fall2021db78-> WHERE supplier_name='Golden State Foods';
 ingredient_name  |   supplier_name
------------------+--------------------
 balsamic vinegar | Golden State Foods
(1 row)
```

14. What are the cheapest meals that cost less than $20?

```
SELECT meal_name,meal_price FROM meal WHERE meal_price < 20;
```

```
fall2021db78=> SELECT meal_name,meal_price FROM meal WHERE meal_price < 20;
         meal_name          | meal_price
----------------------------+------------
 applepie                   |       9.99
 Hamburger                  |       7.99
 Pizza                      |       8.99
 Clam Chowder               |       7.99
 Veg Biryani                |      12.99
 Deep Dish Pizza            |       7.99
 Chicken Waffles            |       9.99
 Chole Bhature              |       7.99
```

15. How many customers did a particular waiter serve?

```
SELECT COUNT(*) AS number_of_meals_a_waiter_served FROM customer
JOIN waiter ON customer.waiter_id = waiter.waiter_id
WHERE waiter_name= 'Jacob';
```

```
fall2021db78=> SELECT COUNT(*) AS number_of_meals_a_waiter_served FROM customer
fall2021db78-> JOIN waiter ON customer.waiter_id = waiter.waiter_id
fall2021db78-> WHERE waiter_name= 'Jacob';
 number_of_meals_a_waiter_served
---------------------------------
                               5
(1 row)
```

16. How many meals did a particular chef prepare?

```
SELECT COUNT(*) AS Meals_Count  FROM meal
JOIN chef ON meal.chef_id=chef.chef_id
WHERE chef.chef_name = 'Scarlet';
```

```
fall2021db78=> SELECT COUNT(*) AS Meals_Count  FROM meal
fall2021db78-> JOIN chef ON meal.chef_id=chef.chef_id
fall2021db78-> WHERE chef.chef_name = 'Scarlet';
 meals_count
-------------
           5
(1 row)
```

17. What is the phone number of a particular waiter?

```
SELECT waiter_name, waiter_phone FROM waiter
WHERE waiter_name = 'Sony';
```

```
fall2021db78=> SELECT waiter_name, waiter_phone FROM waiter
fall2021db78-> WHERE waiter_name = 'Sony';
 waiter_name | waiter_phone
-------------+--------------
 Sony        |    503503307
(1 row)
```

18. What are the meals that a particular customer orders?

```
SELECT customer.customer_name, meal.meal_name FROM meal
JOIN orders ON meal.meal_id = orders.meal_id
JOIN customer ON orders.customer_id = customer.customer_id
WHERE customer_name='Sam king';
```

```
fall2021db78=> SELECT customer.customer_name, meal.meal_name FROM meal
fall2021db78-> JOIN orders ON meal.meal_id = orders.meal_id
fall2021db78-> JOIN customer ON orders.customer_id = customer.customer_id
fall2021db78-> WHERE customer_name='Sam king';
 customer_name |  meal_name
---------------+-------------
 Sam king      | Sukiyaki
 Sam king      | Corn Nachos
(2 rows)
```

19. List all the meal ids/names that were supplied by a particular waiter?

```
SELECT meal.meal_id, meal.meal_name, waiter_name FROM meal
JOIN orders ON meal.meal_id = orders.meal_id
JOIN customer ON orders.customer_id = customer.customer_id
JOIN waiter ON customer.waiter_id = waiter.waiter_id
WHERE waiter_name = 'John';
```

```
fall2021db78=> SELECT meal.meal_id, meal.meal_name, waiter_name FROM meal
fall2021db78-> JOIN orders ON meal.meal_id = orders.meal_id
fall2021db78-> JOIN customer ON orders.customer_id = customer.customer_id
fall2021db78-> JOIN waiter ON customer.waiter_id = waiter.waiter_id
fall2021db78-> WHERE waiter_name = 'John';
 meal_id |      meal_name       | waiter_name
---------+----------------------+-------------
       3 | Pizza                | John
      13 | Som Tam              | John
      33 | Tacos de carne Asada | John
      40 | Shakshuka            | John
      41 | Spanakopita          | John
       3 | Pizza                | John
      13 | Som Tam              | John
      23 | Tempura              | John
(8 rows)
```

20. Who are all the chefs who can prepare Japanese dishes?

```
SELECT chef_name, cuisine FROM chef WHERE cuisine = 'Japanese';
```

```
fall2021db78=> SELECT chef_name, cuisine FROM chef WHERE cuisine = 'Japanese';
 chef_name | cuisine
-----------+----------
 Wasabi    | Japanese
 Oliver    | Japanese
(2 rows)
```

- **A listing of 5 rows from each of your tables**

Table 1: **chef**

```
fall2021db78=> select * from chef;
 chef_id | chef_name | chef_salary | cuisine  | chef_experience
---------+-----------+-------------+----------+-----------------
       1 | Wasabi    |       67656 | Japanese |               7
       2 | Jeremiah  |       87656 | Mexican  |              25
       3 | Aram      |       68789 | Thai     |              13
       4 | Mariya    |       87896 | Italian  |              16
       5 | Scarlet   |       98786 | Chinese  |              20
```

Table 2: **supplier**

```
fall2021db78=> select * from supplier ;
 supplier_id |      supplier_name      | supplier_phone | supplier_city
-------------+-------------------------+----------------+---------------
           1 | Aramco                  |      248542698 | Helsinki
           2 | Sysco Corp.             |      248542699 | Ann Arbor
           3 | US Foods                |      248542688 | Lansing
           5 | Gordon Food Service     |      248541698 | Troy
```

Table 3: **provides**

```
fall2021db78=> select * from provides ;
 supplier_id | ingredient_id
-------------+---------------
           1 |            10
           2 |             9
           3 |             8
           4 |             7
           5 |             6
```

Table 4: **meal**

```
fall2021db78=> select * from meal ;
 meal_id |          meal_name          | meal_price | chef_id
---------+-----------------------------+------------+---------
       1 | applepie                    |       9.99 |       1
       2 | Hamburger                   |       7.99 |       2
       3 | Pizza                       |       8.99 |       3
       4 | Clam Chowder                |       7.99 |       4
       5 | Veg Biryani                 |      12.99 |       5
```

Table 5: **orders**

```
fall2021db78=> select * from orders ;
 customer_id | meal_id
-------------+---------
           1 |       3
           1 |      13
           1 |      33
           2 |      30
           2 |      23
```

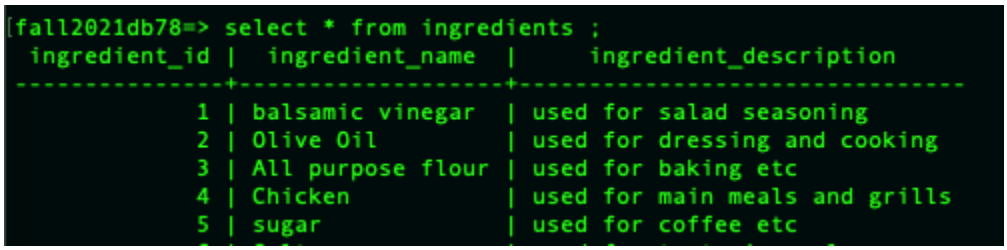
Table 6: **customer**

```
fall2021db78=> select * from customer ;
 customer_id | customer_name |           customer_address           | customer_phone | waiter_id
-------------+---------------+--------------------------------------+----------------+-----------
           1 | LoriBall      | 26 NW st Tigard 97224                |      503523311 |         1
           2 | Jenifer       | 21 SW st Beaverton 97229             |      503223311 |         2
           3 | Davis L       | 11  NW kent  st KingCity  97224      |      503523322 |         3
           4 | Lee           | 200  North Ave Tigard 97223          |      503523344 |         4
           5 | Poland        | 106 NW Pick ct Beaverton 97226       |      503523355 |         5
```

Table 7: **waiter**

```
fall2021db78=> select * from waiter ;
 waiter_id |  waiter_name  | waiter_salary | waiter_phone | waiter_experience
-----------+---------------+---------------+--------------+-------------------
         1 | John          |         20000 |    503503303 |                 3
         2 | Lucus         |         30000 |    503503304 |                 4
         3 | Jade          |         50000 |    503503305 |                 7
         4 | Sam           |         50000 |    503503306 |                 7
         5 | Sony          |         50000 |    503503307 |                 7
```

Table 8: **ingredients**



```
[fall2021db78=> select * from ingredients ;
 ingredient_id |  ingredient_name  |     ingredient_description
---------------+-------------------+-------------------------------
             1 | balsamic vinegar  | used for salad seasoning
             2 | Olive Oil         | used for dressing and cooking
             3 | All purpose flour | used for baking etc
             4 | Chicken           | used for main meals and grills
             5 | sugar             | used for coffee etc
```

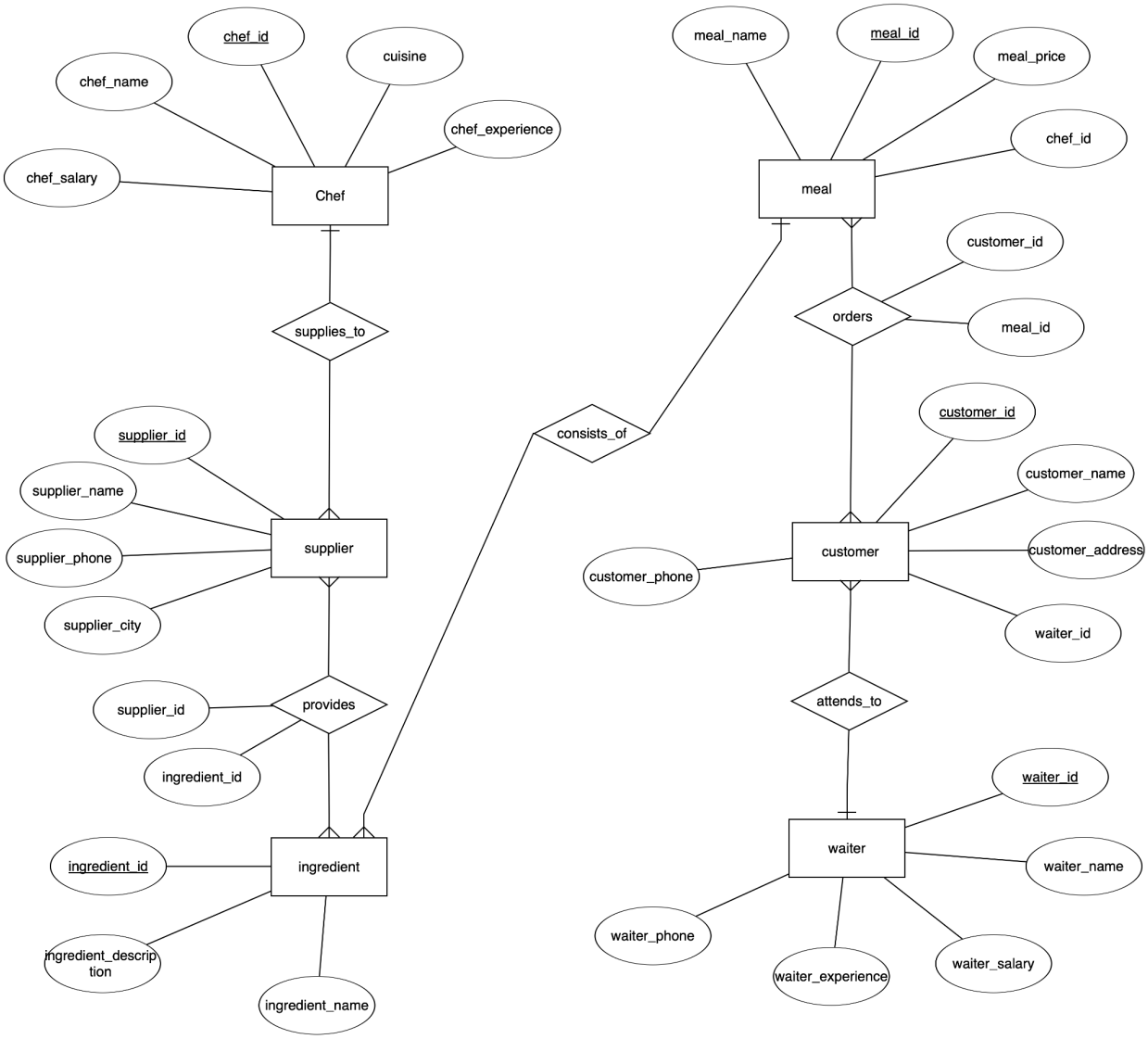
Part - 2

Deliveries:

Part 2. ER Diagram and Relational Schema: Produce an ER diagram for your domain, and its translation into a relational schema, including all keys and foreign keys. You should aim for a database with 6 – 10 tables. You should also submit evidence that you have created at least one table from your schema and populated it with at least one row.

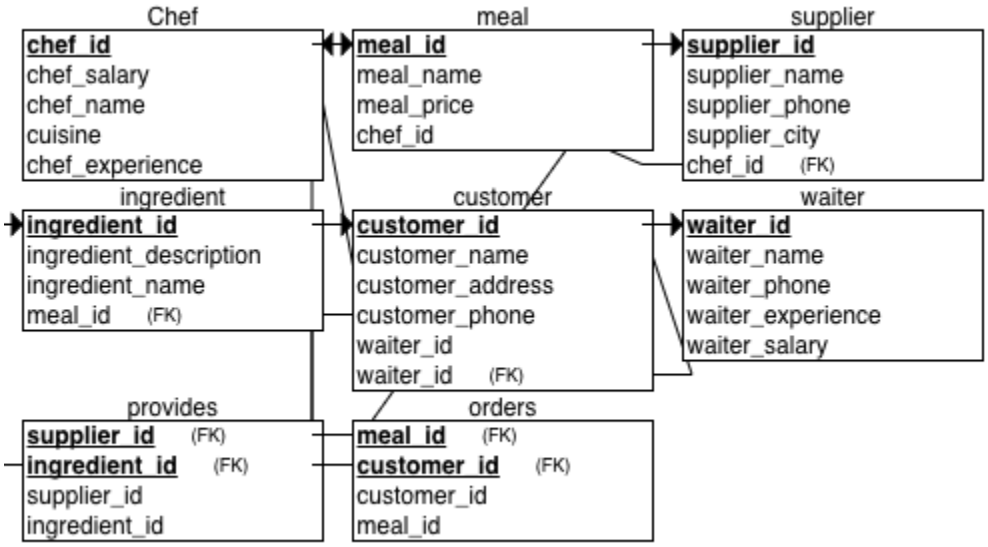
Deliverable: Produce an ER diagram for your domain, and its translation into a relational schema, including all keys and foreign keys. You should aim for a database with 6 – 10 tables.

ER Diagram for the database of Online Restaurant Management System:



Deliverable: Deliverable: Produce an ER diagram for your domain, and its translation into a relational schema, including all keys and foreign keys. You should aim for a database with 6 – 10 tables.

Relational Schema Diagram for the database of Online Restaurant Management System



Deliverable: Relational Schema tables statements in plain english for the database of Online Restaurant Management System

We will be converting the above depicted ER diagram into db schema using the below format (from HW4):

TableName1(Attribute1, Attribute2, Attribute3,…)
Attribute2 is a foreign key referencing Table3.

Underline the attributes making up the primary key of each table. Describe foreign keys in a separate line.

Chef (chef_id INT, chef_name VARCHAR(255), chef_salary float, cuisine VARCHAR(255), chef_experience INT)

CHEF

- Chef_id is the unique id to identify the chef with a datatype of integer
- Chef_name is Identity of the chef with a datatype of varchar
- Chef_Salary is Remuneration of the chef at the end of the month with a datatype of float
- Cuisine is the name of the meal type with a datatype of varchar
- Chef_experience is the number of years worked before with a datatype of int

Meal (meal_id INT, meal_name VARCHAR(255), meal_price FLOAT, chef_id INT)
meal.chef_id is a foreign key that references chef.chef_id

MEAL

- Meal_id is the unique identifier of the meal table with a datatype of integer
- Meal_Name is the identifier of the meal with a datatype of varchar
- Meal_Price is the amount tagged to a particular quantity of food with a datatype of float
- Chef_id is the unique identifier comes to meal because of the many to one relationship

Supplier (supplier_id INT, supplier_name VARCHAR(255), supplier_phone INT, supplier_city VARCHAR(255))

SUPPLIER

- Supplier_id is the unique id to identify the supplier with a datatype of integer
- Supplier_name is the name to identify the supplier with a datatype of varchar
- Supplier_phone is the digits used to get in contact with the supplier with a datatype of integer
- Supplier_city is the town in which the supplier lives in with a datatype of varchar

Customer (customer_id INT, customer_name VARCHAR(255), customer_address VARCHAR(255), customer_phone INT), waiter_id INT)
customer.waiter_id is a foreign key that references waiter.waiter_id

CUSTOMER

- Customer_id is the unique id to identify the customer with a datatype of integer
- Customer_name is the name to identify the customer with a datatype of varchar
- Customer_address is the particular place where the customer lives with a datatype of varchar
- Customer_phone is the digits used to get in contact with the customer with a datatype of integer
- Waiter_id is the unique identifier comes to customer because of the many to one relationship

Waiter (waiter_id INT, waiter_name VARCHAR(255), waiter_salary FLOAT, waiter_phone INT, waiter_experience INT)

WAITER

- Waiter_id is the unique id to identify the waiter with a datatype of integer
- Waiter_name is the name to identify the waiter with a datatype of varchar
- Waiter_salary is the remuneration of the waiter at the end of the month with a datatype of float
- Waiter_phone is the digits used to get in contact with the waiter with a datatype of integer
- Waiter_experience is the number of years the waiter worked before with a datatype of integer

Ingredient (ingredient_id INT, ingredient_name VARCHAR(255), ingredient_description

VARCHAR(255))

INGREDIENT

- Ingredient_id is the unique id to identify the waiter with a datatype of integer
- Ingredient_name is the name to identify the ingredient with a datatype of varchar
- Ingredient_description is what the meal is all about with a datatype of varchar

Orders (customer_id INT, meal_id INT)
orders.customer_id is a foreign key that references customer.customer_id
orders.meal_id is a foreign key that references meal.meal_id

ORDERS

- Customer_id is the unique id to identify the customer with a datatype of integer
- Meal_id the unique identifier of the meal table with a datatype of integer

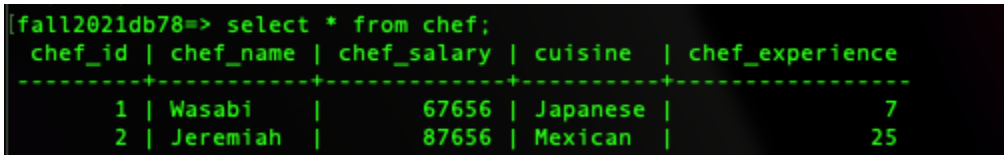
Provides (supplier_id INT, ingredient_id INT))
provides.supplier_id is a foreign key that references supplier.supplier_id
provides.ingredient_id is a foreign key that references ingredient.ingredient_id

PROVIDES

- Supplier_id is the unique id to identify the supplier with a datatype of integer
- Ingredient_id is the unique id to identify the waiter with a datatype of integer

Deliverable: You should also submit evidence that you have created at least one table from your schema and populated it with at least one row

CREATE TABLE chef (chef_id INT, chef_name VARCHAR(255), chef_salary float, cuisine VARCHAR(255), chef_experience INT, PRIMARY KEY(chef_id));



```
fall2021db78=> select * from chef;
 chef_id | chef_name | chef_salary | cuisine  | chef_experience
---------+-----------+-------------+----------+-----------------
       1 | Wasabi    |       67656 | Japanese |               7
       2 | Jeremiah  |       87656 | Mexican  |              25
```

Previous Submissions: Part 1

There are three submissions for this project.

Part 1. Data Description: a) Select a subject area on which you wish to build a database. Write approximately one paragraph that gives a general description / background information on that subject area. b) List 20 questions (in English) that someone might want to ask about the domain. c) Describe what source you intend to use for data, and *how you intend to ingest the data into your database*. You should choose a subject area where you can easily get several hundred rows of data.

Subject area:
Online Restaurant Management System is a web application. This system helps in automating day to day activity of a restaurant. Restaurant is a kind of business that serves people with ready-made food. This system helps in providing service facilities to restaurant and also to the customers. This online restaurant management system can be used by employees in a restaurant to handle the customers, their orders and can help them easily place orders. The services that are provided are food ordering, customer/waiter information management, menu information management and report. After a successful login the customer can access the menu page with the items listed according to the desired time. The main point of this system is to help restaurant administrator manage the restaurant business and help customers for online ordering. Users can search for a menu according to their choice i.e. according to price range, cuisine, and later they can order a meal.

Questions someone might want to ask about the domain/database (we will translate 20 of these 23 listed below):

1. Who are all the chefs in this restaurant?
2. How much salary does the chef make for a particular experience?
3. What are the names of the suppliers?
4. What is the address of a particular supplier?
5. Customer details such as name or address or phone number?
6. Which waiter served a particular customer?
7. What is the price of a particular meal?
8. Which chef prepares a particular meal?
9. Which customer ordered which meal?
10. List all the suppliers from a particular city?
11. List salaries of all the waiters who have a minimum 5 years of experience?
12. Which ingredient is supplied by which supplier?
13. What are all the ingredients supplied by a particular supplier?
14. What are the cheapest meals that cost less than $20?
15. How many customers did a particular waiter serve?

16. How many meals did a particular chef prepare?
17. What is the phone number of a particular waiter?
18. What are the meals that a particular customer orders?
19. List all the meal ids/names that were supplied by a particular waiter?
20. Who are all the chefs who can prepare Japanese dishes?
21. Who are all the chefs that have more than 10 years of experience?
22. Who are the most expensive waiters (highest salary)?
23. Which waiter is the least experienced in the restaurant and display the salary of that (those) waiter(s).

Source of the data and how we plan to load it into database:
We intend to take the data from any online restaurant and if that data does not have enough attributes available publicly, we will add some of our own data to answer the questions we listed above. For example: we will not find who is the chef for a meal, their salaries, or their suppliers. All these details are usually confidential and we have to create our own data for these attributes.

We plan to load the data via csv files.