P3. Final ERD

Entities and Attributes:

1. Employee: This is an entity that signifies a person who works at a restaurant. The attributes defined for this entity are as EmpID which is the primary key that identifies all employees uniquely, EmpName, DateOfBirth, DateOfJoining, EmpSalary and EmpDesignation, an attribute that tells us the type of employee like waiter, manager, etc.

2. Customer: A person will be a customer only if he visits the restaurant at least once. It contains attributes such as CustomerID, CustomerName, DateOfBirth, CustomerContact and CustomerEmail. CustomerID is used to identify a customer record uniquely.

3. Supplier: It has all the details of the supplier, who supplies the inventory to the restaurant. It has attributes such as SupplierID which distinctly identifies the supplier, SupplierName, SupplierContact and SupplierEmail.

4. Product: Product consists of a list of raw materials required for restaurant management. It consists of attributes such as ProductID, ProductName, ProductQuantity, UnitOfMeasurement, DateOfExpiry and ProductCost. ProductID is used to identify the product distinctly. It also consists of foreign key SupplierID associated with the Supplier entity.

5. Menu: It contains the list of items in a menu for a restaurant with attributes such as ItemID, ItemName, ItemDescription, ItemPrice and ItemCategory. The primary key of this entity is ItemID, and ItemCategory is used to identify whether it is appetizer, mains or dessert.

6. ProductMenuRegistry: It is an associative entity that consists of the quantity of the product that is used in each item in the menu. It has a single composite primary key- ProductID and ItemID which individually act as foreign keys.

7. Order: This table is used to store all the orders placed by a customer. OrderID, OrderDateTime, OrderPrepTime, OrderType and OrderAmount are the attributes that are used to maintain the data. OrderPrepTime is the total time required for preparing the order listed and OrderType is used to categorize the order as Dining, Takeaway, Online. Each order is uniquely identified with the help of OrderID. It also has EmpID as a foreign key which references the Employee entity.

8. OrderList: This is a detailed breakdown of all the list of items that are present in a single order. Here OrderID and ItemID together are used to identify a row uniquely, and individually are used a foreign keys for Order table and Menu table respectively. In addition to these, we also have Quantity as an attribute in this relation.

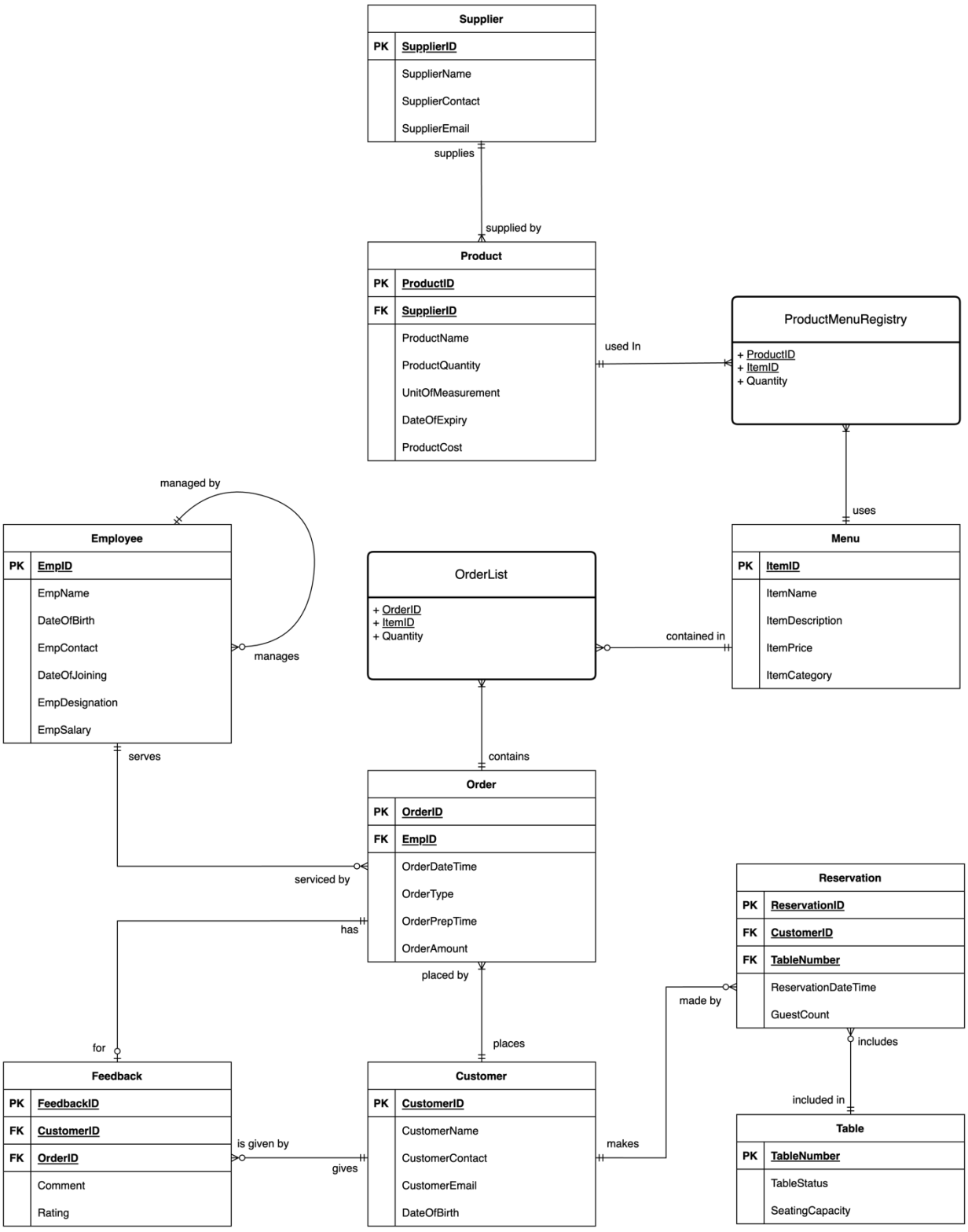
9. Table: Number of Tables in a restaurant are defined by this entity which includes TableNumber, TableStatus and SeatingCapacity. TableNumber uniquely identifies a table in the restaurant and TableStatus indicates whether a table is occupied, available, reserved.

10. Reservation: Used for maintaining the reservation details made by customers with the help of attributes namely ReservationID, ReservationDateTime, TableNumber, GuestCount and CustomerID. ReservationID acts as a primary key, TableNumber is referencing the Table relation and CustomerID acts as a foreign key that references the Customer Table. GuestCount refers to the number of guests visiting.

11. Feedback: Every time a customer orders food, we can store all their feedback in this table in terms of Comments, Ratings. FeedbackID is associated to distinctly identify feedback given by a customer for a particular order.

Relationships:

1. A supplier supplies many products to the restaurant and at least one product must be supplied by a single supplier. (one to many)
2. Every item in the menu must contain at least one product and a product must be used in at least one of the items (many to many). This relationship has attribute ‘quantity’ which led to an associative entity Product Menu Registry.
3. An order must contain at least one item from the menu, but menu item may or may not be contained in an order (many to many). This relationship has an attribute ‘quantity’ which led to an associative entity, Order List.
4. An employee may manage one, multiple or no employees, but an employee must be managed by at least only one employee (many to one).
5. An order must be handled by an employee and an employee may handle multiple orders (one to many).
6. A customer must place at least one order and can place more than one order. An order must be associated to (placed) only one customer. (many to one)
7. A customer may make multiple reservations. A single reservation must be associated to only one customer. (many to one)
8. A table may be included in multiple reservations and a reservation must include a table. (many to one)
9. A customer may give multiple feedback. A feedback must be associated to only one customer. (many to one)
10. Feedback must be given for an order and an order may get feedback. (one to one)


Supplier
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supplies
supplied by
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ProductQuantity
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used In
ProductMenuRegistry
+ ProductID
+ ItemID
+ Quantity
uses
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contained in
OrderList
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