**Task 1**

In this task, you need to create a normalized ER diagram (that adheres to 1NF, 2NF and 3NF) with relevant relationships to meet the data requirements of Little Lemon. When creating your diagram, include the following tables:

* Bookings: To store information about booked tables in the restaurant including booking id, date and table number.
* Orders: To store information about each order such as order date, quantity and total cost.
* Order delivery status: To store information about the delivery status of each order such as delivery date and status.
* Menu: To store information about cuisines, starters, courses, drinks and desserts.
* Customer details: To store information about the customer names and contact details.
* Staff information: Including role and salary.

Here is some guidance for completing this task:

* Identify entities and related attributes.
* Identify primary and foreign keys.
* Define data types and constraints.

Once you have designed your ER diagram inside your MySQL Workbench Model Editor you then need to save your data model as **LittleLemonDM** and export it as a PNG file.

**Solution:**

**- Customers Table:**

| **Column Name** | **Data Type** | **Description** |
| --- | --- | --- |
| Customer\_id | INT (PK) | Unique customer identifier |
| Name | VARCHAR(255) | Customer full name |
| Email | VARCHAR(255) | Customer email address |
| Phone | CHAR(20) | Customer phone number |
| Address | TEXT | Customer address |

**- Staff table:**

| **Column Name** | **Data Type** | **Description** |
| --- | --- | --- |
| Staff\_id | INT (PK) | Unique staff identifier |
| Name | VARCHAR(255) | Staff full name |
| Email | VARCHAR(255) | Staff email address |
| Phone | CHAR(20) | Staff phone number |
| Address | VARCHAR(400) | Staff address |
| Role | VARCHAR(255) | Staff position |
| Salary | DECIMAL(10,2) | Staff salary |

- **Bookings table**:

| **Column Name** | **Data Type** | **Description** |
| --- | --- | --- |
| Booking\_id | INT (PK) | Unique booking identifier |
| BDate | DATE | BookingDate |
| RDate | DATE | Reserved Date |
| TableNo | INT | Table Number |
| CustomerID | INT(FK) | Customer made the booking |
| StaffID | INT(FK) | Staff received the booking |

**Relationship**: One customer might make several bookings, and one staff might receive several bookings

**- MenuItems table:**

| **Column Name** | **Data Type** | **Description** |
| --- | --- | --- |
| MenuItem\_id | INT (PK) | Unique menu item identifier |
| Name | VARCHAR(255) | Name of food/drink item |
| TypeID | INT(PK) | Type of food (dessert, main, starter…) |
| Price | DECIMAL | Price of food item |
| CuisineID | INT(FK) | Cuisine type (Italian, Indian…) |

**-** **Cuisine table**: this table contains different cuisine types like Italian, Indian, Vietnamese…

**-** **Types**: records type of meal such as starter, dessert, main course…

**-** **Orders table**:

| **Column Name** | **Data Type** | **Description** |
| --- | --- | --- |
| Order\_id | INT (PK) | Unique menu item identifier |
| Date | DATE | Date of Order |
| TotalCost | DECIMAL (10,2) | Total cost of order |
| CustomerID | INT(FK) | Which customer made the order |
| StaffID | INT(FK) | Which staff receive the order |

**- Order\_Items table:**

| **Column Name** | **Data Type** | **Description** |
| --- | --- | --- |
| Order\_Item\_id | INT (PK) | Unique menu item identifier |
| Date | DATE | Date of Order |
| TotalCost | DECIMAL (10,2) | Total cost of order |
| ItemPrice | DECIMAL (10,2) | Item price |
| OrderID | INT(FK) | To identify Order Number |

Relationship: One customer might place multiple orders; one staff could receive multiple orders too. One order has one corresponding deliveryID. One order might have different items.

**- DeliveryDetails:**

| **Column Name** | **Data Type** | **Description** |
| --- | --- | --- |
| DeliveryID | INT (PK) | Unique delivery identifier |
| Date | DATETIME | Delivery date & time |
| TotalCost | DECIMAL (10,2) | Total cost of order |
| ItemPrice | DECIMAL (10,2) | Item price |
| OrderID | INT(FK) | To identify Order Number |

**- DeliveryStatus:**

Identify status of a delivery, it could be: Delivered, In progress, Not start…

Use MySQL Workbench, we materialize the data model for LittleLemon database as below: