Documentation of the Project for Little lemon

**Task 1**

Creating a new user is the most secure way to connect to your MySQL database. In this first task, you need to use MySQL Workbench to create a new user account.

Here is some guidance for completing this task:

* Log in to the MySQL Server using the root user.
* Select Administration tab from the Navigator section.
* Select Add account.
* Provide a meaningful username and a strong password.
* Grant the new user the right to perform all tasks.

**Task 2**

To prepare for building and managing your database, you need to be connected to a MySQL server. In this task you need to create a new MySQL connection.

Here is some guidance for completing this task:

* In the MySQL Workbench home screen, select MySQL connection tab.
* Select the plus icon to open the Setup New Connection form.
* Fill in the form to create a new server instance.
* Click the **Test Connection** button to check that the settings work as required.

Once you have completed this task, you can use this connection to begin working with database schemas and SQL queries.

In a relational database, if you want to delete or update data, you need (most likely) to do it everywhere. If you miss any field or commit a mistake, you’ll end up with incorrect or inconsistent information. These kinds of problems are referred to as the insert, update and delete anomalies.

To solve these problems, you need to apply the normalization process. This process aims to minimize data duplications, avoid errors during data modifications and simplify data queries from the database. The three fundamental normalization forms are summarized below.

### ****First Normal Form (1NF)****

The 1NF form enforces the data atomicity rule and eliminates unnecessary repeating groups of data. The data atomicity rule means that you can only have one single instance value of the column attribute in any cell of the table.

### ****Second Normal Form (2NF)****

For a relation in a database to be in the second normal form, it must already be in the first normal form. In addition, you need to avoid any partial dependency relationships. These occur when a non-key attribute depends only on one part of the composite primary key (a key that consists of a combination of two or more columns).

### ****Third Normal Form (3NF)****

For a relation in a database to be in the third normal form, it must already be in the second normal form. In addition, it must have no transitive dependency. This means that any non-key attribute in the table may not be functionally dependent on another non-key attribute in the same table.

Little Lemon wants you to use MySQL Workbench to develop a relational database system and implement it in MySQL server. Save your database capstone project files in a folder on your machine and name it **db-capstone-project**.

## **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.

## **Task 2**

In this second task, you need to implement the Little Lemon data model inside your MySQL server. Here is some guidance for completing this task:

* Use the forward engineer method in MySQL Workbench to implement the Little Lemon data model inside MySQL server.
* Name your database **LittleLemonDB**.
* Export the **LittleLemonDB** as a single contained SQL file and save it in the **db-capstone-project** folder.

## **Task 3**

In the third and final task, you need to show the databases in the MySQL server. Write a SQL code inside MySQL Workbench SQL editor to show all your databases in MySQL server. Check if the Little Lemon database is included in the list.