Section 2: Data Modelling

Scenario:

Kangaroo is an online delivery company, which is looking for the development an effective Relational Database Management System (RDBMS) and data warehouse to satisfy the needs of the growing business. As a data analyst, you have been asked to develop a required system for Kangaroo.

Section 1

Develop the system that satisfies the following business information requirements:

- The database should contain information about Customers, Items, Restaurants, Orders, Drivers and their Vehicle. For payroll, the National Insurance (NI) number of the drivers is recorded.
- For each customer, the database should store the Customer ID, Last Name, First Name, Email, and the Phone Number.
- For each driver, their name, salary, email address and their manager are recorded as well as details of their Driving License such as Driving License Number, Issue Date, country of issue and Expiry Date.
- Each driver is assigned a motorbike when they start with the company and they normally keep it during the duration of their contract. Details of the motorbike are registered such as Registration Number, colour, date of purchase, engine size etc.
- Each Manager manages at least one driver, and each driver is associated with one restaurant only, but one restaurant employs many drivers.
- For each of the Restaurant, the Restaurant ID, Restaurant Name and Address are recorded.
- For each Item, the Item ID, the Item Name and Item Price should be recorded. The items are divided into four categories such as Starter, Main Course, Deserts and Drinks. Prices for each item/Product may vary in different branches. For example, the Pizza Hut Croydon Branch sells Garlic Bread at £3.50 but the Oxford Street Branch charges £4.00 for the same item.
- For each order, it is required to store the Order ID, Order date and the Products that have been ordered. A customer must order at least one item per order.
- A customer can have one or more orders from the same or different restaurants.
- A driver can deliver more than one order, but one driver delivers a particular order only.

Section 2

Task One:

Design a relational database using either Chen's notation or Crow Foot notation, capable of supporting the given business scenario. Your design should include Relationships and any participation constraints.

Task Two:

Write MySQL code to implement your database design. You should document your code and use constraints, default values, ON DELETE clauses, etc., as appropriate for the business scenario. The use of wizards is prohibited.

Populate all the tables in the database you created with some data (At least 10 records in each table). The data should be meaningful but does not need to be extensive.