**Rented Vehicle Reservation System**

**Requirements:**

* Vehicle Reservation System has many **vehicles**. These vehicles have their vehicle registration number, vehicle id, vehicle status and meter reading. Vehicle id and vehicle registration number are unique.
* One vehicle can have many types. This **vehicle type** has name, cost per mile. The type of vehicle can be identified by vehicle id only.
* Many customers can choose many vehicles. **Customer** can have name, gender, customer id, occupation, date of birth, email id and address. Customer can be uniquely identified by their customer id. Name of customer can be separated into first name and second name.
* One Customer can choose many drivers. All customers choose at least one driver. **Driver** has driver’s id, name, date of birth, occupation, status, email id and address. Driver’s id is always unique. Driver can have many addresses.
* Driver gives booking details to manager. Many drivers can give booking details to one Manager. It is not necessary that all drivers can give booking details to manager since some of the driver may not have been booked.
* **Manager** can have First name, last name, Phone no. id. Manager’s id is unique. Manager can have many phone numbers.
* One manager can produce many bills. **Billing** can have bill id, total amount, discount id, discount amount, booking id, advance amount, billing date, bill status, tax amount and amount balance.

**Team Members:**

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**Entities and their Attributes**

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| --- | --- |
| **Entity** | **Attributes** |
| **Driver** | Driver’s id, Name **(Composite attribute)**, DOB, Status, Gender, Address**(Multivalve attribute)**, Email id |
| **Vehicle** | Vehicle reg no, vehicle id, vehicle status, meter reading |
| **Vehicle Type** | Name, Deposit, Cost per mile, Availability |
| **Customer** | Name**(Composite attribute)**, Cust ID, Gender, Occupation ,Email id, DOB, Address, Status |
| **Manager** | First name, Last name, id |
| **Billings** | Bill id, Total amount, Bill date, Bill status, tax amount, amount bal, Advance amount, Book id, Discount amount |

**Constraints**

|  |  |  |  |
| --- | --- | --- | --- |
| **Entities** | **Relationship** | **Cardinality Ratio** | **Participation constraints** |
| Driver and Customer | allocates | N:1 | Customer(Total)  Driver(Partial) |
| Customer and Vehicle | choose | M:N | Both are Total |
| Vehicle and Vehicle\_Type | have | 1:1 | Both are Partial |
| Driver and Manager | give booking details | M:1 | Driver(Partial)  Manager(Total) |
| Manager and Billings | generates | N:1 | Both are Total |