A company named Car2Go runs a car rental business in several locations. It offers different car rental options to its customers by providing variety of car classes with different properties. For certain weeks in the year ,The company also applies some promotional discount on the rental prices. A customer can rent only one car at any given time and the rent calculation is based on the car class, duration in days and available promotion The rented cars can be returned to any location of the company without extra charges.

**Car Rental System Business Rules**

* Car2Go has several branches.
* Each branch has a unique ID
* Each car has some certain properties such as make, model, year made, and color.
* Each Car ID and Plate Number is unique
* Each car belongs to one car class
* Car options are only unique within the car
* The company keeps record of the customers Information. Each customer has a unique driving license number. A customer may have zero or more emails and phone numbers.
* The company keeps records of odometers as initial and final odometers
* Company rents a car with full tank, in return of the car the tank is measured; if it's empty, full, half full, ¾ full or ¼ full
* The Rented cars can be returned to any location of the company without extra charges.
* Each Drop off location has a unique id
* A customer can rent only one car at a given time. In case of not having the customer’s requested class in stock a higher-class car will be provided without extra fees.
* For certain weeks in the year, the company has some promotional rental discounts that only apply to one car class
* The drop off charge is based on the class of the rented car, the duration (at least one day) in days and promotional rentals (if it's applicable).
* Each car class has a unique drop off charges

Diagram

Description automatically generated

Diagram

Description automatically generated with medium confidence

* customer (driving\_licence\_no, f\_name, l\_name, street, street\_no, apt, city, province, postal\_code, country)
* customer\_ph(driving\_licence\_no, country\_code,  area\_code, local\_number)
* customer\_email(driving\_licence\_no, email)
* location(location\_id, street\_name, street\_no, city, province\_branch, postal\_code\_branch)
* car (plate, vin, year, make, model, color, class\_name, location\_id)
* rent(rent\_id, driving\_licence\_no, st\_date, end\_date, gas\_tank, int\_odo, final\_odo, requested\_car\_class, rented\_car\_class, plate )
* location\_rent(rent\_id, location\_start, location\_final)
* car\_class( class\_name, cost\_per\_day)
* promotion(promo\_id, discount, class\_name, start\_date, last\_date)
* reservation(res\_id, total\_days(), price(),rent\_id, promo\_id)

Yellow represents foreign key.

|  |  |  |
| --- | --- | --- |
| **FOREIGN KEY** | **REFERENCED RELATION** | **REFERENCING REALTION** |
| driving\_licence\_no | customer | customer\_ph |
| driving\_licence\_no | customer | customer\_email |
| class\_name | car\_class | promotion |
| class\_name | car\_class | car |
| requested\_car\_class | car\_class | rent |
| rented\_car\_class | car\_class | rent |
| location\_id | location | car |
| driving\_licence\_no | customer | rent |
| plate | car | rent |
| rent\_id | rent | reservation |
| promo\_id | promotion | reservation |
| location\_id | location | location\_rent |

1. All the tables are in 1NF  
2. All the tables are in 2NF  
3. All the tables are in 3NF