IN1010 Data Modeling Exercise 2 – Classic Car Club

In this exercise you have to decide what the entities (tables) are, which attributes should belong in which tables, and what the relationships should be.

A classic car club where members pay a fee to belong and can book out various classic cars for up to 5 days is developing a database to replace its existing paper-based records system. The customer's membership fee is translated into club points. The database needs to record members by their unique membership number, name, address, date of birth and club points. The system needs to record bookings of cars with a unique booking id, a start date and a number of days. The cars available to members need to be put in the database. Each car has a registration number, make, model, mileage and band. When a booking is complete the system should store the invoice information which should show the end date of the booking and the cost of the car in club points.

Develop data model in Visual Paradigm to represent the above scenario.
Hint: The relationship between two of the tables is one we haven't used before, but it is on the Visual Paradigm relationship menu.

Member
Member_ID (Primary Key)
Member_name
Member_address
Member_DOB
Membership_number (foreign key)

Membership
Membership_number (Primary key)
Membership_fee
Club_Points

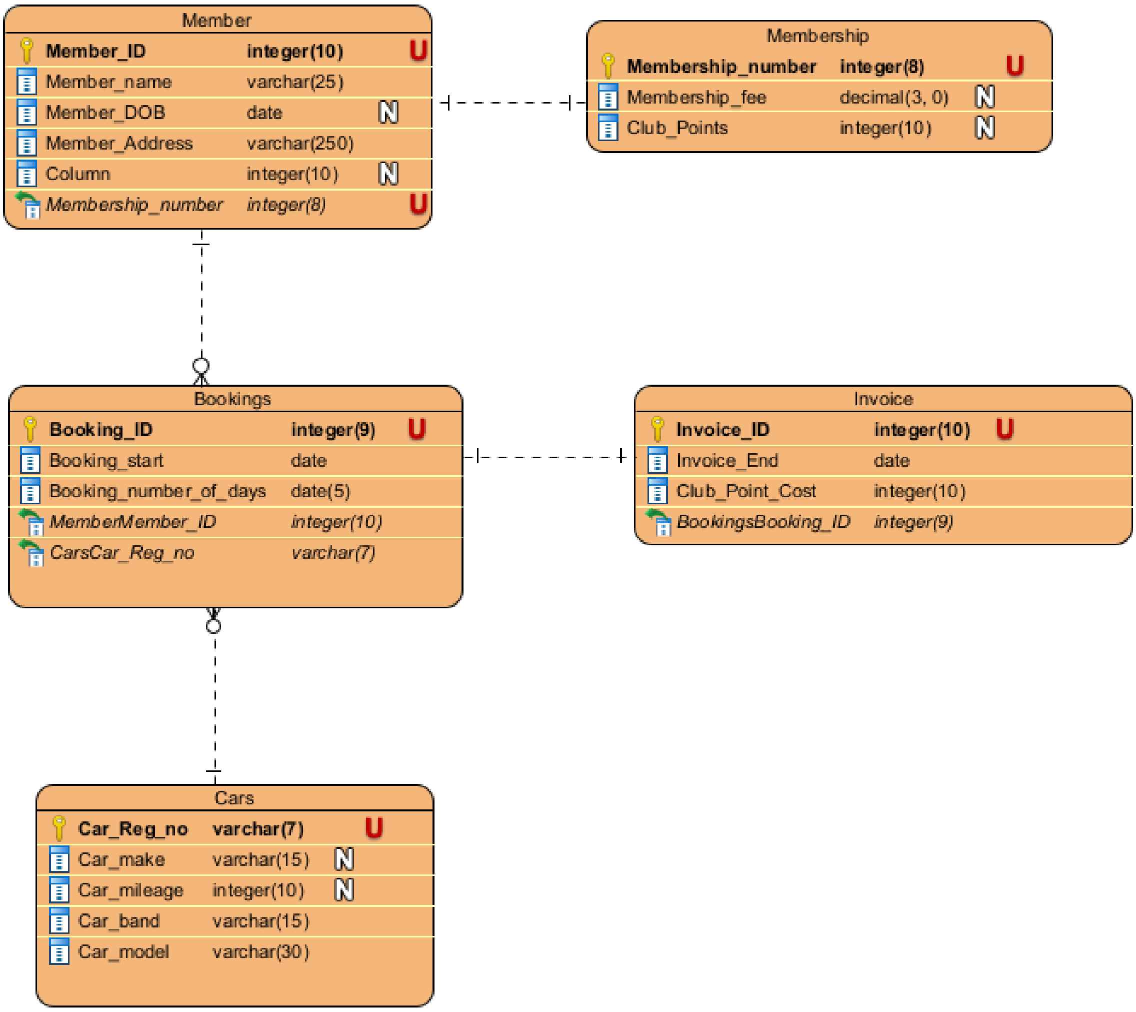
Bookings
Booking_ID (primary key)
Member_ID (foreign key)
Car_Reg_no (foreign key)
Booking_start
Booking_number_of_days

Cars
Car_Reg_no(primary key)
Car_make
Car_model
Car_mileage
Car_band

Invoice

Invoice_ID (primary key)
Booking_ID (foreign key)
Invoice_End
Club_Point_Cost

Member: Membership – 1 to 1
Member: Booking – 1 to many
Booking: Cars – Many to 1
Invoice to cars – 1 to 1



Member		
Member_ID	**integer(10)**	U
Member_name	varchar(25)	
Member_DOB	date	N
Member_Address	varchar(250)	
Column	integer(10)	N
Membership_number	*integer(8)*	U

Membership		
Membership_number	**integer(8)**	U
Membership_fee	decimal(3, 0)	N
Club_Points	integer(10)	N

Bookings		
Booking_ID	**integer(9)**	U
Booking_start	date	
Booking_number_of_days	date(5)	
MemberMember_ID	*integer(10)*	
CarsCar_Reg_no	*varchar(7)*	

Invoice		
Invoice_ID	**integer(10)**	U
Invoice_End	date	
Club_Point_Cost	integer(10)	
BookingsBooking_ID	*integer(9)*	

Cars		
Car_Reg_no	**varchar(7)**	U
Car_make	varchar(15)	N
Car_mileage	integer(10)	N
Car_band	varchar(15)	
Car_model	varchar(30)	