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.

Keys:

[] Entity
[] Attributes
[] Primary key
[] Foreign Key

Member (Entity)

Primary Key
- MembershipNumber

Attributes
- Name
- Address
- DOB
- Club Points

Car (Entity)

Primary key
- Registration number

Attributes
- Make
- Model
- Mileage
- Band

Booking (Entity)

Primary Key & Foreign key

- Booking_ID
- MembershipNumber
- RegistrationNumber

Attributes

- Start date
- Number of days
- End date

Invoice (Entity)

Primary key & Foreign key

- Invoice_ID
- Booking_ID

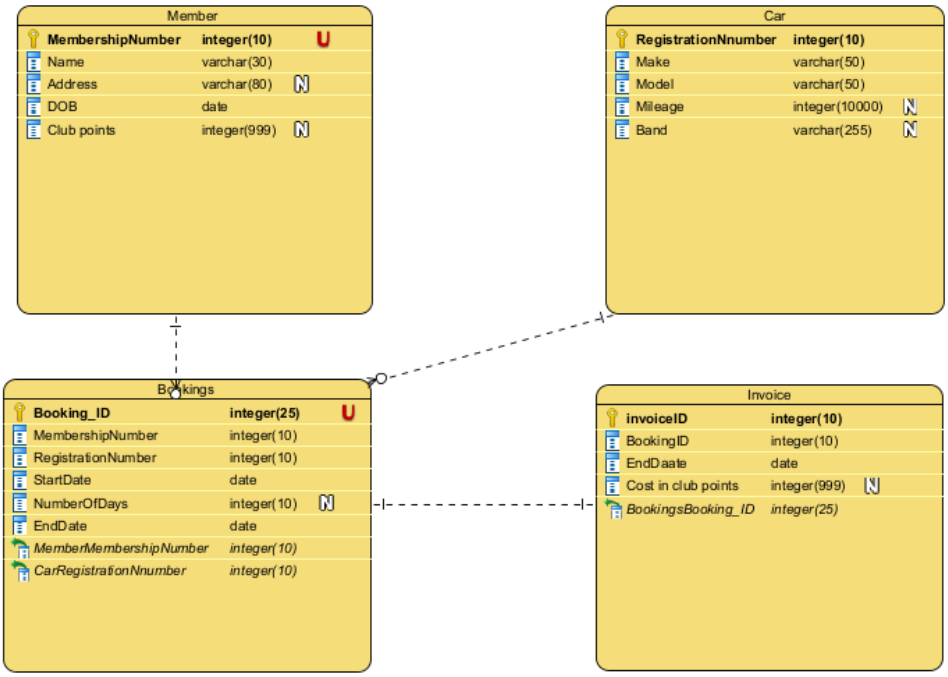
Attributes

- End date
- Cost in club points

Relationships:

* Member to Booking: One-to-Many (A member can have many bookings)
* Car to Booking: One-to-Many (A car can have many bookings)
* Booking to Invoice: One-to-One (Each booking has a single invoice)

Entitity Relationship Diagram:


Member
MembershipNumber integer(10) U
Name varchar(30)
Address varchar(80) N
DOB date
Club points integer(999) N
Car
RegistrationNnumber integer(10)
Make varchar(50)
Model varchar(50)
Mileage integer(10000) N
Band varchar(255) N
Bookings
Booking_ID integer(25) U
MembershipNumber integer(10)
RegistrationNumber integer(10)
StartDate date
NumberOfDays integer(10) N
EndDate date
MemberMembershipNumber integer(10)
CarRegistrationNnumber integer(10)
Invoice
invoiceID integer(10)
BookingID integer(10)
EndDaate date
Cost in club points integer(999) N
BookingsBooking_ID integer(25)