Simple Clinic

Business Requirements

1. **Patients**:
   • The database should store information about patients.
   • Each patient should have a unique identifier, a name, a date of birth, gender, contact information (phone number, email), and address.

2. **Doctors**:
   • The database should store information about doctors.
   • Each doctor should have a unique identifier, a name, specialization, a date of birth, gender, contact information (phone number, email), and address.

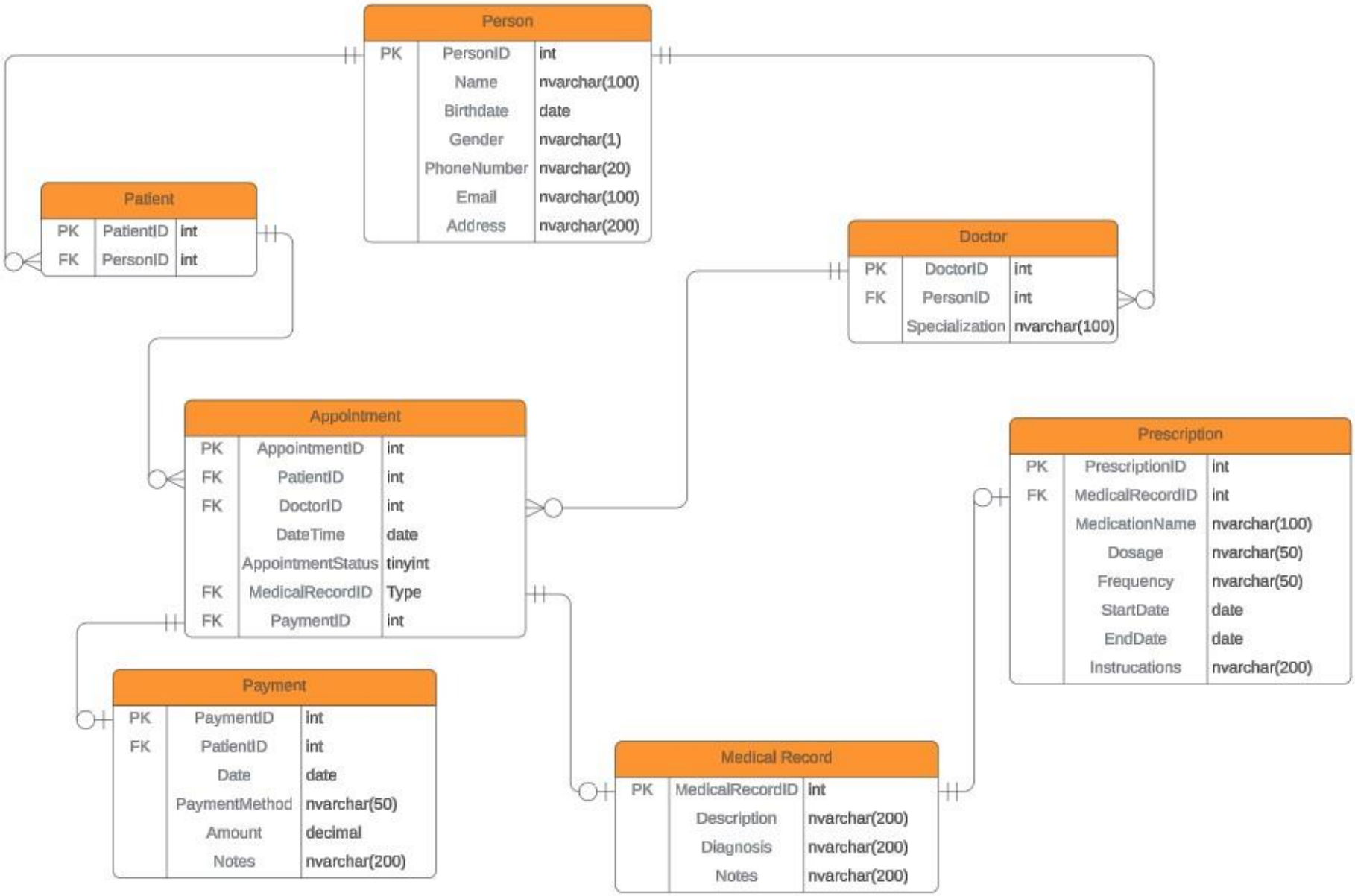
3. **Appointments**:
   • The database should store information about appointments.
   • Each appointment should have a unique identifier, a patient, a doctor, appointment date and time, and appointment status.
   • Appointment Status:
   1. Pending: The appointment has been scheduled but has not yet occurred.
   2. Confirmed: The appointment has been confirmed by both the patient and the healthcare provider.
   3. Completed: The appointment has taken place as scheduled.
   4. Canceled: The appointment has been canceled either by the patient or the healthcare provider.
   5. Rescheduled: The appointment has been rescheduled for a different date or time.
   6. No Show: The patient did not show up for the appointment without canceling or rescheduling.

4. **Medical Records**:
   • The database should store medical records for patients. •For each attended appointment there should be a medical record.
   • Each medical record should have a unique identifier, a patient, a doctor, a description of the visit, diagnosis, prescribed medication, and any additional notes.

5. **Prescription**:
   • The database should store information about prescribed medications.
   • For each medical record there should be at most one prescription.
   • Each prescription should have a unique identifier, a medical record, medication name, dosage, frequency, start date, end date, and any special instructions.

6. **Payments**:
   • The database should store information about payments.
   • Payment is per appointment.
   • Each payment should have a unique identifier, a patient, a payment date, payment method, amount paid, and any additional notes.

Relational Diagram Using (crow's foot notation)



Simple Library

Business Requirements

1. **Book Management**:
   • Store and manage information about books, including title, author(s), ISBN, publication date, genre, and additional details.
   • Track availability status of book copies, indicating whether they are available for borrowing or checked out by users.
   • Manage multiple copies of a book, each with a unique identifier (copy ID).

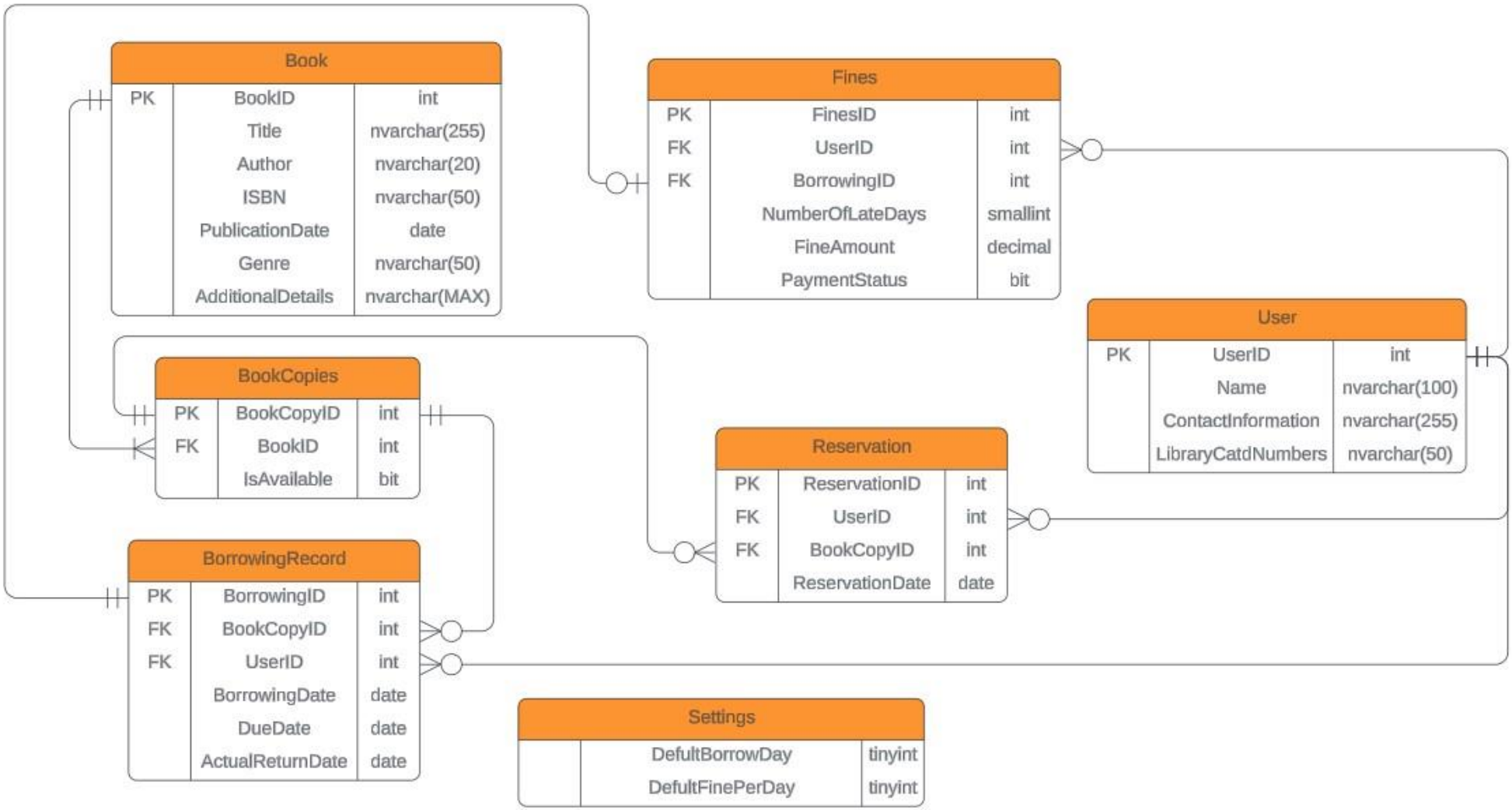
2. **User Management**:
   • Maintain records of library users, including their names, contact information, and library card numbers.

3. **Borrowing and Returns**:
   • Enable users to borrow book copies from the library.
   • Track borrowing records, including the book copy borrowed, user information, borrowing date, and due date.
   • Handle the return process, updating the availability status of book copies.
   • Check for any fines or penalties associated with late returns or damaged book copies.

4. **Holds and Reservations**:
   • Allow users to place holds or reservations on book copies that are currently checked out.
   • Manage the order of reservations to ensure fairness.

5. **Fine Management**:
   • Calculate and manage fines or penalties for late returns book copies.
   • Keep track of the fine amount owed by each user.
   • Maintain the payment status to track whether fines have been paid or are still pending.

Relational Diagram Using (crow's foot notation)



Karate Club

Business Requirements

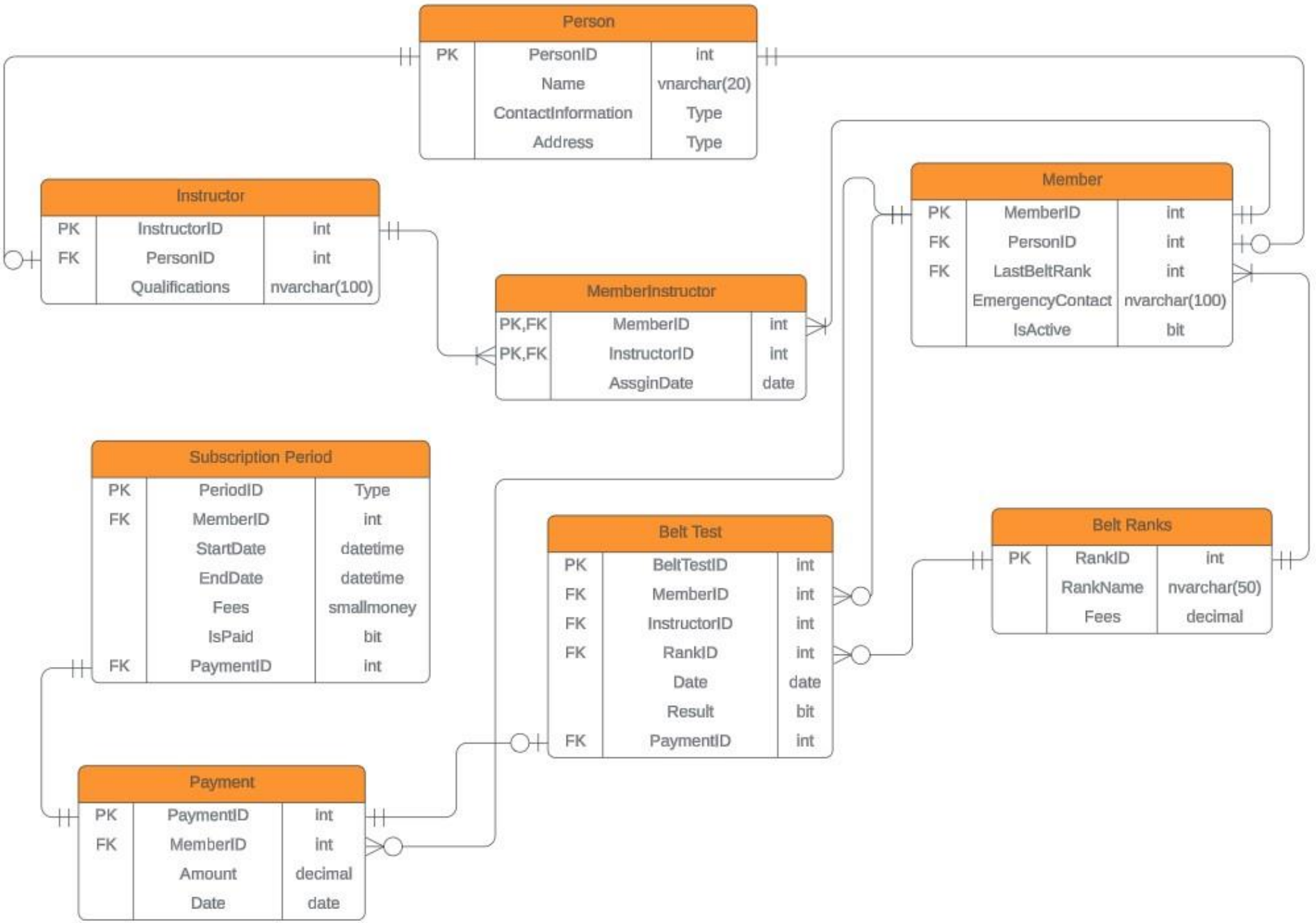
1. **Membership Management**:
   • The system should allow the creation and management of member profiles, including personal information, contact details, emergency contact information, and membership status.
   • Member information (Name, Address, ContactInfo, Emergency Contact)
   • Each Member can have subscription Periods and each period should have (StartDate,EndDate,Fees,IsPaid).
   • Members should be able to enroll in the karate club, renew their memberships, and update their information as needed.
   •The system should track membership start and end dates, as well as membership status (active/inactive).

2. **Instructor Management**:
   • The system should allow the creation and management of instructor profiles, including personal information and qualifications.
   • Instructor information (Name, Address, ContactInfo, Qualifications).
   • Members can have many instructors.
   • Multiple instructors should be able to train a single member, and each instructor should be able to train multiple members.

3. **Belt Rank and Testing**:
   • The system should support the management of different belt rank tests in karate.
   • Members should be able to participate in belt rank tests to advance their ranks.
   • The system should track belt test dates, results, and the instructors who conducted the tests.
   • Each member's current belt rank should be recorded and updated as they pass the tests and progress.
   • Belt Ranks are fixed in the system as follows:
   1.White Belt - 2.Yellow Belt - 3.Orange Belt - 4.Green Belt - 5.Blue Belt - 6.Purple Belt - 7.Brown Belt - 8.Black Belt (1st Dan) - 9.Black Belt (2nd Dan) - 10.Black Belt (3rd Dan) - 11.Black Belt (4th Dan) - 12.Black Belt (5th Dan) - 13.Black Belt (6th Dan) - 14.Black Belt (7th Dan) - 15.Black Belt (8th Dan) - 16.Black Belt (9th Dan) - 17.Black Belt (10th Dan)
   • Each Belt Rank has a different test Fees.

4. **Payment and Fee Management**:
   • The system should support the management of membership fees and payments as well as the test fees payments.
   • Members should be able to view their payment history and make payments for membership fees.
   • The system should track payment details, such as the amount, date, and payment status.
   • Member can pay for subscriptions and for test as well.

Relational Diagram Using (crow's foot notation)



Car Rental

Business Requirements

1. **Customer Management**:
   • Customer Management: The system should save customers personal information: Name, contact information, and a driver's license number.

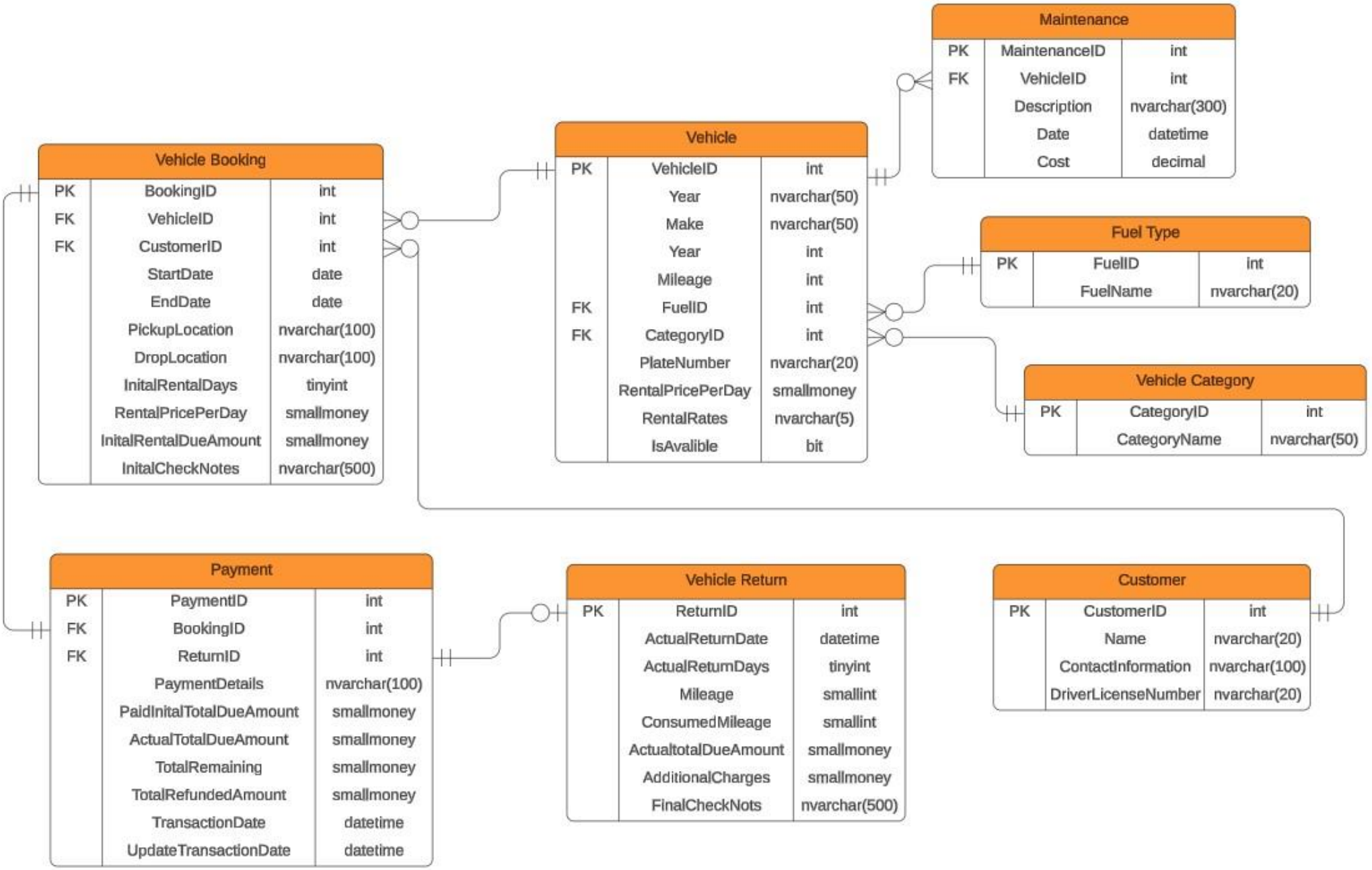
2. **Vehicles Information**:
   • The system should maintain an up-to-date information of available vehicles, including information such as make, model, year, mileage, and rental rates, fuel type (Gaz, Electric,.etc.) , plate number, Vehicle Category (4x4, Sedan, ..etc.)
   • Vehicle Fuel Types: (Gasoline (Petrol), Diesel, Electric, Hybrid).

3. **Vehicle Booking**:
   • When a customer rents a vehicle System should keep booking information: customer who rented this vehicle, rental start date, rental end date, pickup location, drop of location, Initial rental days, initial total due amount, initial vehicle check notes.

4. **Rental Transaction**:
   • Customer should pay for the rent and a transaction should be logged in the system to keep the following information: Payment Details, initial paid amount.

5. **Vehicle Return**:
   • When customer returns a vehicle, the system should calculate and keep the Actual Return Date, calculate actual rental days, record the final vehicle check notes, specify if there are additional charges.
   • Original Transaction should be updated and record all differences in reservation and calculate the actual final amount due, and calculate the remaining amount, if they customer need refund, we pay it back.
   • Save the current Milage, and calculate the consumed Mileage by customer during the rent period

Relational Diagram Using (crow's foot notation)



Online Store

Business Requirements

1. **Product Catalog Management**:
   • This would store information about the products available for sale. It would include attributes such as product name, description, price, quantity in stock, images, and other relevant details.

2. **Customer Information**:
   • This would store information about registered customers.
   • It would include data such as customer name, contact details, shipping address, login credentials.

3. **Order Information**:
   • This would store information about customer orders. It would include data such as order number, customer details, order date and time, purchased products, quantities, prices, shipping method, and order status.
   • Order Status: Pending, Processing,Shipped, Delivered, Cancelled, Refunded.

4. **Payment Transaction**:
   • This would store information about payment transactions.
   • It would include data such as transaction ID, customer details, payment amount, payment method, timestamp.

5. **Shipping**:
   • This would store information about shipping and logistics.
   • It would include data such as order ID, shipping carrier details, tracking number, shipping status, Estimated delivery date, Actual Delivery Date and any related notes or updates.
   • Shipping Status:
   1.Processing
   2.Out for Delivery
   3.Delivered
   4.Return to Sender
   5.On Hold
   6.Delayed
   7.Lost

6. **Reviews and Ratings**:
   • This would store customer reviews and ratings for products. It would include data such as product ID, customer ID, review text, rating score (1 to 5), and timestamps

Relational Diagram Using (crow's foot notation)