Lab Work on Java Persistence

The assignments for lab work are based on the Taxi database. Don't worry it is quite easy to understand as you can see in figure 1.

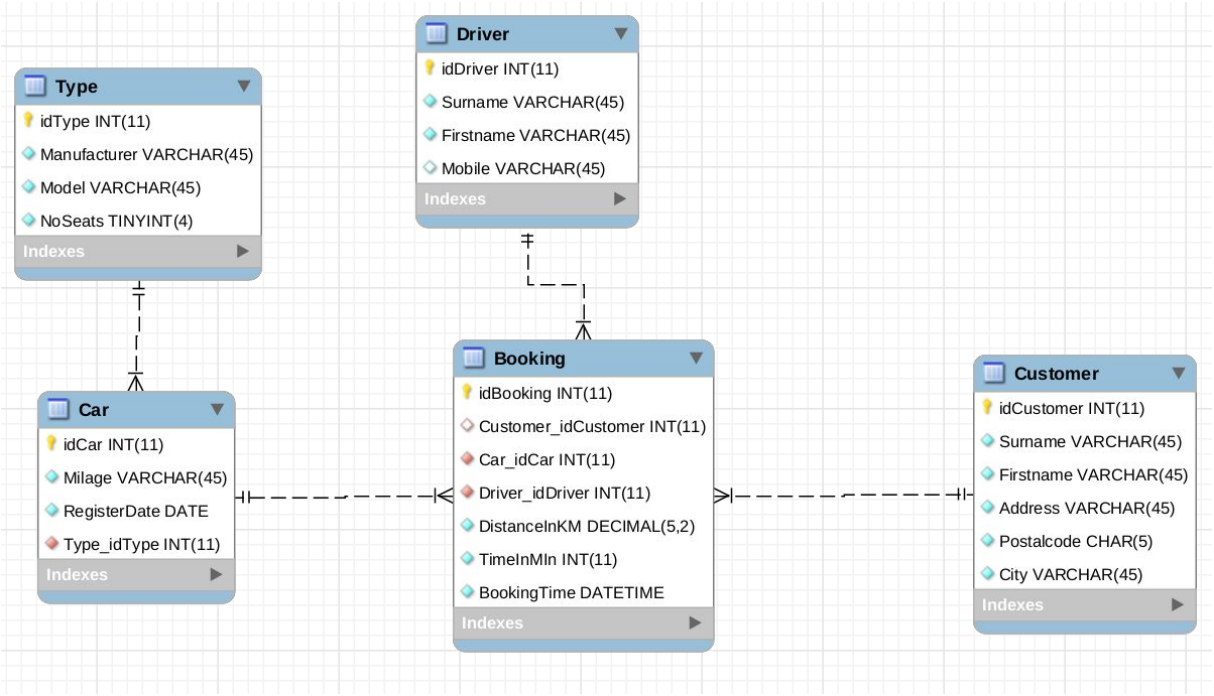

figure 1: Lab Work Data Model

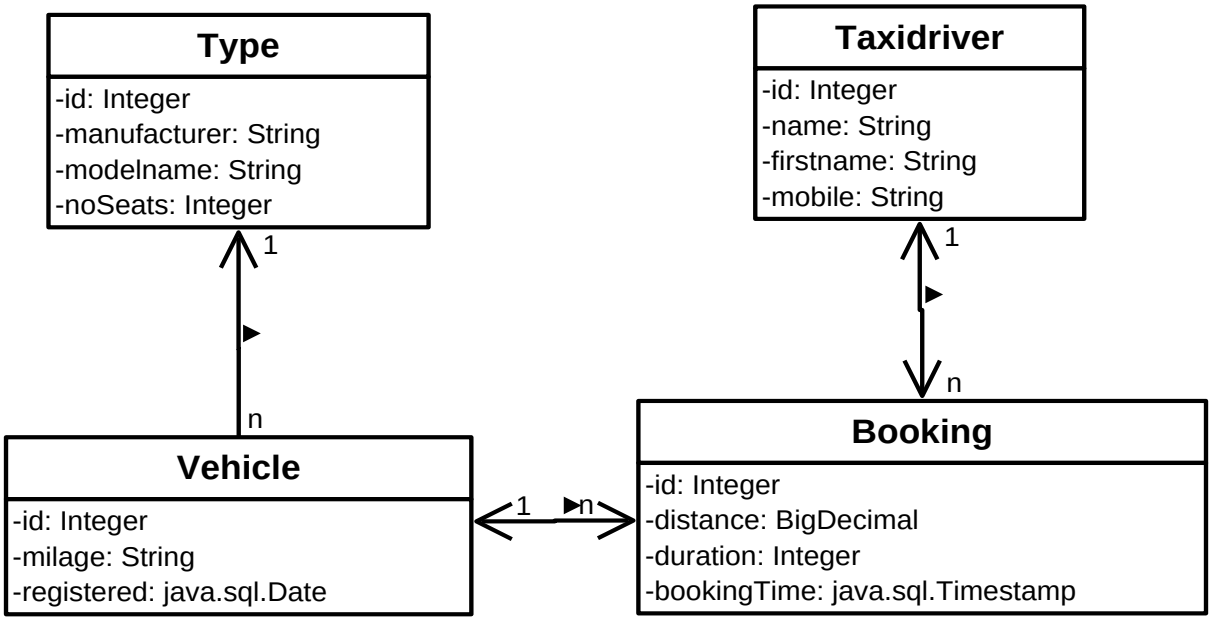

figure 2 Class Diagram

Preparation

If you have already worked on the first assignment, there is nothing additional to set up. If not the database has to be imported in your VM. This can be done by firstly downloading the SQL file from Moodle, then create a database called ***userXX_taxi*** and afterwards importing it using PHPMyAdmin or MySQL Workbench.

Solution Format

Please hand-in your **well-documented** Java source code as a zip-file.

Assignments

For each of the following assignments write the relevant Java code and in-code **documentation**.

Solve the following tasks by creating an implementation based on the class diagram shown in figure 2 using Java.

1. Firstly, implement each class based on the class diagram in figure 2.
   HINT: Getter und Setter methods can be generated automatically by eclipse via right click in source code and then clicking on *Source -> generate Getters and Setters*.

2. Make sure that the objects are stored permanently using JPA (eclipseLink) while mapping your classes to the legacy db schema shown in figure 1. Also make sure to implement the correct relationships.

3. Create **namedQueries** for finding each entity type by its secondary keys. These are:
   - Taxidriver.name ->Bookings
   - Booking.bookingTime->Vehicle

   HINT: *bookingTime* is of Type java.sql.Timestamp (see

   https://docs.oracle.com/javase/7/docs/api/java/sql/Timestamp.html#valueOf(java.lang.String)

4. Finally, create a test class that makes use of each of your newly created classes and **namedQueries** using either **namedParameters** or **positionalParameters**.