

Lab 1

a.

We need to design the domain model of a car rental application. The car rental application has the following requirements:

- We should be able to add new rentals, delete rentals and search rentals.
- For every rental we need to store the name, phone, email, street, city and zip code of the customer. We also need to keep track of the start date of the rental, the maximum duration of the rental and the end date of the rental.
- The application should also support the functionality reserve cars. For every reservation you make, you need to keep track of the date you reserved it.
- The application should support the fact that we have multiple cars of the same type. So we might have 8 Ford F-150 Pick-up trucks available.

Draw the class diagram of the domain model. The domain model is also called the model of the business (logic) and only contains the domain (or business) classes. The domain model does **NOT** contain technical classes like service classes, DAO classes or other technical plumbing classes.

b.

We need to design the domain model of a webshop application for selling books. The book webshop application has the following requirements:

- We should be able to search books.
- We should be able to fill a shoppingcart with different books.
- We should be able to buy multiple copies of the same book.
- We should be able to order a content of the shoppingcart and add our customer data so it is shipped to the correct address
- An order has bot a shipping and a billing address.

Draw the class diagram of the domain model

c.

Draw the class diagram of the webshop of part b, but also add the necessary technical plumbing classes like service classes, DAO classes, etc. Assume that the shoppingcart is stored in the database.

d.

Implement you design of part c in Java. The DAO class should not really talk to a database, but implement it as such that you can store and retrieve shoppingcars using an internal Map.

You only need to implement the following logic:

- You can add a product to the shoppingcart
- You can remove a product from the shoppingcart
- You can change the quantity of a product in the shoppingcart
- You can retrieve the shoppingcart.

e.

Watch the following 2 youtube movies:

<https://www.youtube.com/watch?v=eqh1wMJ9FfA>

<https://www.youtube.com/watch?v=BCYIUzMMyc>

Write down the main points you learned from these movies.

What to hand in?

1. A jpeg picture of part a
2. A jpeg picture of part b
3. A jpeg picture of part c
4. A zip file of part d
5. A PDF of part e.