



Exercise for *Database System Concepts for Non-Computer Scientist* im
WiSe 18/19

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<http://db.in.tum.de/teaching/ws1819/DBSandere/?lang=en>

Sheet 03

Exercise 1

In this exercise we model an online pizza delivery service. Use the following details and create a descriptive UML class diagram (including multiplicities):

- A pizza delivery service has a name and a website (modeled as a url). Each delivery service has at least one branch.
- A branch has a user and a cleanliness rating and two types of employees: one manager and many drivers. Each employee has a salary, a name and a phone number.
- When a branch closes, the manager is automatically fired. Drivers, in our system, are independent of branches and are allowed to contract for up to five different branches at a time. They should remain in the system, even if they are currently not working for any branch.
- Each pizza delivery service offers at least five different pizzas. Each pizza has a name, a price and a list of toppings.
- Customers have a name, an address, a phone number and it should be stored how much money they tip on average (For simplicity, we assume that no employee is also a customer).
- A customer can place an order at a delivery service. The order is executed by a concrete branch, delivered by one driver and it involves at least one pizza. It should be possible to tell the total price for an order.

Exercise 2

Consider a super market where customers can buy products. Model the “purchase” relationship between customers, products and stores using:

- Entity relationship diagrams with functionalities
- Entity relationship diagrams with min/max notation
- UML class diagrams with multiplicities

Think about what constraints on your database you can enforce with different choices.