Exercise 1

Consider the following ER-diagram:

Refine and transform this diagram into a database schema (SQL DDL). You can assume that each attribute is an integer. Use not null, primary key, references, unique and cascade when possible/necessary.

Exercise 2

In the following ER-diagram, we model people (person). The married relation models the german law (i.e., each person can have at most one spouse). The parent_of is to be interpreted in the biological way (i.e., each person has exactly one mother and one father).

First, add min/max to the diagram. Then, create SQL-statements that would create the corresponding tables in a database system. Use not null, primary key, references, unique and cascade when possible/necessary.
Exercise 3

Write the following queries in SQL on the known university schema:

(a) Find all students that are in the third semester.
(b) Figure out if there is a lecture with more than five weeklyhours.
(c) Print out a list with all professor names and avoid duplicates.