**NICE ALTER, CREATE, DELETE, JOIN EXAMPLE: https://www.youtube.com/watch?v=ZRBqmSgVP7s**

1. Try to DELETE a plz of your plz table on …

a. … which you have a reference out of your table person.

**DELETE PLZ FROM plz, person WHERE**

**plz.plz = person.plz\_id;**

**ERROR! Error Code: 1451. Cannot delete or update a parent row: a foreign key constraint fails (`db\_ws\_17`.`person`, CONSTRAINT `fk\_person2plz` FOREIGN KEY (`plz\_id`) REFERENCES `plz` (`ID`))**

b. … which you haven’t got a reference out of your table person.

**DELETE PLZ FROM plz, person WHERE**

**plz.plz = person.plz\_id;**

**DONE!**

What is happening and why?

Because UPDATE and DELETE are restricted based on FOREIGN KEY, the operations are not possible if there exists a reference in the child table.

2.

a. CREATE a new Table anrede with the following settings:

**CREATE TABLE anrede**

**(**

**ID INTEGER NOT NULL AUTO\_INCREMENT PRIMARY KEY,**

**Anrede VARCHAR (20) NOT NULL**

**);**

b. Add in your table anrede the following two attributes:

**INSERT INTO anrede (id, anrede)**

**VALUES (1, 'Herr'),**

**(2, 'Frau');**

c. Add now a constraint with the name fk\_person2anrede and set the anrede as a FOREIGN KEY from the table person which REFERENCES to the id from anrede. Please use RESTRICT for UPDATE & DELETE!

**ALTER TABLE anrede**

**ADD CONSTRAINT fk\_person2anrede**

**FOREIGN KEY anrede(id) REFERENCES person (anrede)**

**ON DELETE RESTRICT**

**ON UPDATE RESTRICT;**

**NOT POSSIBLE BECAUSE OF THE DIFFERENT ATTRIBUTE TYPES!**

3. We have the following two quantities:

M1:= {3, 9, 12}, M2:= {drei, neun}

a. Show all elements from M1 x M2

n

b. R:= {(a, b) ∈ M1 x M2 | b is the name for a}

Represents R a relation, if yes why?

c. Show the relation R in a table

d. How are the elements of M1 x M2 called?

e. Show the Symmetry class [R] of the relation R.

4. Describe two differences between tables and relations? Discuss the impacts.

5. Calculate …

a. … the cardinality of the following tables

b. … the grade of the following tables