Exercise for *Database System Concepts for Non-Computer Scientist* im WiSe 19/20

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http://db.in.tum.de/teaching/ws1920/DBSandere/?lang=en

Sheet 08

Exercise 1

(Sub queries) Answer the following questions on our university database using SQL:

a) Find all foundation lectures (lectures that don't depend on another lecture).

b) "Lonely Students" Are there any students that are attending a lecture on their own? Try solving it without the use of `group by`.

c) "Industrial Students" List all students that are attending all lectures. Hint: [1] [2]

Exercise 2

How many *Assistants* does each *Professor* have? Print out a list with the name of the professor and the number of her assistants. Think about why professors that don't have any assistants don't show up. How could you include them in the list. Hint: [3]

Exercise 3

Calculate the weighted average grade for the exams of each student. The grades should be weighted by the *weeklyhours* of the respective lecture. This is similar to the formula used for your degree. Students who did not take any test yet, do not have to be reflected in the result.

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[1] The task can be rephrased as: List all students, where there is no lecture with no attend record of the student.

[2] Alternatively, you could also try counting how many lectures a student is attending.

[3] Using union, we can combine the result of two queries with the same schema: select a.name from (select 'Kant' as name union select 'Sokrates' as name) a;