



***Database System Concepts for Non-Computer Scientist - WiSe 23/24***

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<http://db.in.tum.de/teaching/ws2324/DBSandere/?lang=en>

**Sheet 08**

**Exercise 1**

Answer the following questions on our university database using SQL:

- a) Each assistant works in a certain area. Figure out how many assistants work in each area.
- b) Determine the number of areas a professor is interested in. A professor is interested in an area if one of their assistants works in this area. Professors who do not have an assistant do not need to be included in the result.
- c) Include the professors without assistants in the result.

**Exercise 2**

Write a query that determines the kind of degree a student is pursuing. In our database, we assume that this can be deduced from the student's semester in the following way: A student who has not reached her 7th semester yet is still considered a "bachelor student". Once in the 7th semester, she should be categorized as a "master student". Starting in the 11th semester, we label her as a "phd student".

**Exercise 3**

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?
- c) "Industrial Students" List all students that are attending all lectures. Hint: <sup>1</sup> <sup>2</sup>

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

<sup>2</sup>Alternatively, you could also try counting how many lectures a student is attending.