TU München, Fakultät für Informatik
Lehrstuhl III: Datenbanksysteme
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Database System Concepts for Non-Computer Scientist - WiSe 24/25

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Sheet 06

Exercise 1

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".

Optional 2

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: [1] [2]

Exercise 3

Answer the following questions on our university database using SQL:

a) Calculate how many lectures each student is attending. Students who do not attend any lecture should be included in the result as well ($attend\_count = 0$) (use outer joins).

b) Figure out how many students each professor knows: A professor knows students from one of their lectures or via a test they have supervised. Include professors not knowing any students and use outer joins. Hint: [3]

Exercise 4

Find those students who have attended all lectures that they wrote a test in.

[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] Remember that SQL has set operations.