TU München, Fakultät für Informatik
Lehrstuhl III: Datenbanksysteme
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Exercise for *Database System Concepts for Non-Computer Scientist* im WiSe 18/19

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http://db.in.tum.de/teaching/ws1819/DBSandere/?lang=en

Sheet 09

Exercise 1

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 ($attend\_count = 0$). This time, use outer joins.

b) Figure out how many students are attending each lecture. Lectures which are not attended by any student should be included in the result as well ($attend\_count = 0$). Again, use outer joins.

Solution:

a)
```
select s.studNr, s.name, count(a.studNr)
from Students s left outer join attend a
                       on s.studnr = a.studnr
group by s.studNr, s.name
```

b)
```
select l.lectureNr, l.title, count(a.lectureNr)
from Lectures l left outer join attend a on l.
   lectureNr = a.lectureNr
group by l.lectureNr, l.title
```

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".

Solution:

```
select s.studNr, s.name,
   case
      when s.semester < 7 then 'bachelor student'
      when s.semester < 11 then 'master student'
      else 'phd student'
   end) as degree
from Students s
```