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 (\textit{attend\_count} = 0). This time, use outer joins.

\begin{verbatim}
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 (\textit{attend\_count} = 0). Again, use outer joins.
\end{verbatim}

Solution:

\begin{verbatim}
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 
\end{verbatim}

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:

\begin{verbatim}
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 
\end{verbatim}