Foundations of Information Management  
WS 16/17  

Exercise 7

Exercise 1 (SQL training, discussion of Exercise 6.1). Please prepare a solution to the subtask of Exercise 6.1 assigned to you. Think about how to present the solution to the other students: What are the challenges in this task? Why did you compose the SQL query just as you did? Is it necessary to rewrite the question? Are there alternative solutions using a different approach? ... (If you’re unsure about your solution, you can verify it by sending a mail request before Tue 24:00 to engelsc@cs.uni-bonn.de.)

Exercise 2 (Aggregate functions). Once again consider the university schema:

- student: ID, name, address, birthdate, semester, subject
- professor: ID, name, age, department
- lecture: ID, title, topic, subject, semester, lecturer
- attends: student, lecture, grade

Formulate the following questions as SQL queries using aggregate functions like MIN, MAX, SUM and COUNT:

a) How many students are listed in the student relation?
b) Who is the oldest/who is the youngest professor? What is the average age of a professor?
c) How many database lectures are listed in the lecture relation?
d) List for each semester the number of students.
e) List for each subject the number of students. What is the most popular subject?
f) List for each student the number of lectures he/she attends and the average grade.
g) Who is the best first semester computer science student?
h) How many students are attending lectures by Prof. Fröhlich?