

**5DV021**

**Principles of Database Systems**  
**Class Exercises on Queries**

**Fall 2009**

The following questions will be solved in class, as illustrations of techniques for constructing queries.

1. Basic queries: "Gruppövningar:Relation algebra/kakyl" from the Spring 1996 offering of the course. These exercises may be found on the course web pages at

<http://www.cs.umu.se/kurser/5DV021/H09/MiscEx/ovning2.html>

These exercises are more fundamental than those identified in question 2 below. They should be solved for each of the relational algebra and the tuple relational calculus. The descriptions are in Swedish, but an answer key, in English, is available at

<http://www.cs.umu.se/kurser/5DV021/H09/MiscEx/index.html>

All questions are translated into English in this key.

2. More complex queries: problem 6.16 of the textbook (problem 7.18 of the third edition). (Some of these problems require the use of more advanced query operators, such as aggregation and averaging. Do only those which may be solved using the basic operations covered in class, but make note of those which cannot be so solved, and explain why.)