Test for Språkdatabaser (VT97,970527) page 1 of 1

This test contains 10 questions each of which is worth 10 points. To pass this test you should obtain at least 60 points. You may answer in English or in Swedish. Try to give short answers.

The results of this test will be displayed on the board next to room H327 from Friday May 30.

1. What is a database? Use no more than one sentence for your answer.
2. Describe the three database levels of the ANSI/SPARC database architecture.
3. Give three relational algebra operations and explain how they work.
4. Explain the concept multi-valued dependency.
5. What is an encapsulated object?
6. Can a text corpus be stored in a relational database? Motivate your answer.

A relation R with 5 attributes A, B, C, D and E satisfies the functional dependencies in the irreducible set containing: AB→C, B→D and D→E. R is at least in 1NF.

7. Determine all candidate keys of R.
8. Is R in any other normal form than 1NF? Motivate your answer.
9. Convert R to BCNF.
10. Give a relational calculus operation for extracting a relation with two attributes C1 and C2 from R such that C1 comes from a tuple in R for which the D value is the same as the D value in the tuple from C2.