Foundations of Databases

General Information

Free University of Bozen-Bolzano, 2009

Werner Nutt

Foundations of Databases

Provisional syllabus (as time permits):

- Relational Query Languages: conjunctive queries, equivalent fragments of SQL and relational algebra, mappings between relational algebra and relational calculus

- Query Processing and Optimization: algebraic optimization (short), containment and equivalence of conjunctive queries, conjunctive query optimization

- Datalog and Recursion: plain datalog, evaluation mechanisms, datalog with negation,

- (Possibly, a glimpse at:) Incomplete Information, Information Integration

Teaching Materials

- Slides (essentially by Thomas Eiter, Leonid Libkin + others)

  The slides will be published on the course website (link from my home page).

- Books:

  - S. Abiteboul, R. Hull, and V. Vianu. *Foundations of Databases*,

    Addison-Wesley, 1995.

    Most of the material follows this book, which is available on the Web

  - H. Garcia-Molina, J. D. Ullman, and J. Widom. *Database Systems – The*

    Complete Book, Prentice Hall, 2002.

    Can be read as complementary material

Coursework

- Problems will be distributed during lectures.

- Students work in groups of 2.

- In addition, each group has to work out a sample solution for a selected exercise to be published on the course pages.

- Lab marks will be based on solutions submitted.

For students who do submit exercises, the final mark will be based on both the exam mark and the exercise mark (Weighted average of the exam mark (50%) and the exercise mark (50%))

If this average is greater than the exam mark, the average will be the final mark, otherwise, it's the exam mark.

Office Hours

Please, make an appointment before coming. Thus you will avoid waiting.

- Office: Palais Trapp, Mustergasse 4, Office 2.01

- Time: Wednesday, 2pm-4pm,

- Email: nutt@inf.unibz.it