Database Technology Organization

Heiko Paulheim
Hello

• Prof. Dr. Heiko Paulheim
• Chair of Data Science
• Research Interests:
  – Semantic Web and Linked Open Data
  – Data Mining with Linked Open Data
  – Ontology Matching
  – Data Quality and Data Cleaning
  – Outlier Detection
• Room: B6 – C1.09
• Consultation: by appointment
• Heiko will teach the lectures
Hello

• Sven Hertling
• Ph.D. Student
• Research Interests:
  – Semantic Technologies / Semantic Web
  – Linked Data
  – Knowledge Graphs
• Room: B6 – C1.03
• Consultation: by appointment
• Sven will teach the exercises
Introduction and Course Outline

• Administration
• Introduction
  – Concept and (brief) history of relational databases
  – Introduction to the relational model
Course Organization

• Lecture
  – Database concepts
  – Theory of relational algebra, relational modeling, query processing
  – Introduction to SQL

• Exercise
  – Creating example databases
  – Hands-on experience

• Final exam
Course Contents and Schedule

• Today: Introduction
• 11.9.+18.9.: SQL
• 25.9.: ER Models
• 2.10.: Normal Forms
• 9.10.: Indexing and Hashing
• 16.10.: Database Architectures
• 23.10.: No lecture
• 30.10.: Query Processing
• 6.11.: Query Optimization
• 13.11.: Transactions and Concurrency
• 20.11.: Recovery
• 27.11.: Advanced Datatypes, Application Development
• 4.12.: Application Development & Architectures
Course Organization

• Lecture Webpage: Slides, Announcements, Web Links
  – hint: look at version tags!

• Additional Material

• Time and Location
  – Lecture: Tuesday, 10.15 – 11.45, Room B6 A1.04
  – Exercise: Friday, 10.15 – 11.45, Room B6 A1.04
Material and Sources

• This course (and the majority of the slides) are based on the book
  – Silberschatz et al.: Database System Concepts

• Several copies are available in the library
• Additional material online
  – www.db-book.com
Questions?