Database Technology Organization

Heiko Paulheim
Hello

• Prof. Dr. Heiko Paulheim
• Chair of Data Science
• Research Interests:
  – Knowledge Graphs on the Web and their Applications
  – Data Quality and Data Cleaning on Knowledge Graphs
  – Machine Learning and Data Mining on Linked Data
• Room: B6 – B.022
• Consultation: Tuesdays, 9-10 am
  – Please make an appointment w/ Ms. Lermer upfront
• Heiko will teach the lectures
Hello

• Sven Hertling
• Ph.D. Student
• Research Interests:
  – Semantic Technologies / Semantic Web
  – Linked Data
  – Knowledge Graphs
• Room: B6 – B0.01
• 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
• 20.+27.2.: SQL
• 6.3.: ER Models
• 13.3.: Normal Forms
• 20.3.: Indexing and Hashing
• 27.3.: Database Architectures
• 3.4.: Query Processing
• 10.4.: Query Optimization
• 17. & 24.4. Easter Break, 1.5. Holiday
• 8.5.: Transactions and Concurrency
• 15.5.: Recovery
• 22.5.: Application Development

you’ll get a larger exercise assignment here
Course Organization

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

- Additional Material
  - ILIAS eLearning System, https://ilias.uni-mannheim.de/

- Time and Location
  - Lecture: Wednesday, 12.00 – 13.30, Room B6 A1.04
  - Exercise: Wednesday, 13.45 – 15.15, 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?