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
- 19.2.+26.2.: SQL
- 4.3.: SQL Bootcamp (Exercise only)
- 11.3.: ER Models
- 18.3.: Normal Forms
- 25.3.: Indexing and Hashing
- 1.4.: Database Architectures
- 8.4. & 15.4. Easter Break
- 22.4.: Query Processing
- 29.4.: Query Optimization
- 6.5.: Transactions and Concurrency
- 13.5.: Recovery
- 20.5.: Application Development
- 27.5. Wrap up and Q&A (Exercise only)

you’ll get a larger eggxercise assignment here
Course Organization

• Lecture Webpage: Slides, Announcements, Web Links
  – https://www.uni-mannheim.de/dws/teaching/course-details/courses-for-master-candidates/cs-460-database-technology/
  – hint: look at version tags!

• Additional Material

• Time and Location
  – Lecture: Wednesday, 12.00 – 13.30, 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?