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
  – Using Knowledge Graphs in Data Mining
  – Societal Impact of Artificial Intelligence
• 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

- 22.2.: Introduction
- 1.3.+8.3.: SQL
- 15.3.: ER Models
- 22.3.: Normal Forms
- 29.3.: Index and Hashing
- 5.4.+12.4.: *Easter Break*
- 19.4.: DB Architectures
- 26.4.: Query Processing
- 3.5.: Query Optimization
- 10.5.: Transactions and Concurrency
- 17.5.: Recovery
- 24.5.: Application Development

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

- Time and Location
  - Lecture: Wednesday, 12.00 – 13.30, B6 A104
  - Exercise: Wednesday, 13.45 – 15.15, B6 A104

- Remote teaching
  - For those who can’t be there, we provide video recordings in ILIAS (from 2021, but they are widely identical)
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?