

INTRODUCTION TO RELATIONAL DATABASE SYSTEMS

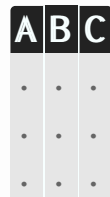
DATENBANKSYSTEME 1 (INF 3131)

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Universität Tübingen
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WELCOME!

This course will introduce you to the world of **Relational Database Systems**, *the* dominating database technology in use today (since the early 1970s).

- All data in Relational Database Systems takes a **rectangular, tabular shape**:



A	B	C
.	.	.
.	.	.
.	.	.

- Relational Database Systems benefit from this restricted **data model** in a number of ways:
 1. A **data language** to insert into, extract from, and manipulate such data tables is simple
 2. The formal model behind this idea is simple as well
 3. Regular data layout admits a super-efficient implementation (→ Datenbanksysteme 2)

TORSTEN GRUST?

Time Frame	Affiliation/Position
1989–1994	Diploma in Computer Science, TU Clausthal
1994–1999	Promotion (PhD), U Konstanz
2000	<i>Visiting Researcher</i> , IBM (USA)
2000–2004	Habilitation, U Konstanz
2004–2005	Professor Database Systems, TU Clausthal
2005–2008	Professor Database Systems, TU Munich
since 2008	Professor Database Systems, U Tübingen

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<http://db.inf.uni-tuebingen.de/team/grust>

@Teggy (*Professor, likes database systems and programming languages.* ツ)

WSI, Sand 13, B318

ADMINISTRATIVA (1)

LECTURES

Time Slot	Room
Monday, 10:15–11:45	Sand 6/7, grosser Hörsaal
Tuesday, 14:15–15:45	Sand 6/7, grosser Hörsaal

TUTORIALS

Time Slot	Room
Friday, 10:15–11:45	Sand 6/7, grosser Hörsaal

ADMINISTRATIVA (2)

END-TERM EXAM

- A 90-minute **written exam** on Monday, Feb 8 2016, 10:00–12:00 (*room tbd*)
- You may bring a A4 double-sided hand-written *cheat sheet*
- Passing earns you 6 ECTS

WEEKLY ASSIGNMENTS

- We will distribute, collect, and grade **weekly assignments**
- You may — and you should — work in teams of two
- Scoring $\geq \frac{2}{3}$ of the overall points in the assignments earns you an additional 3 ECTS and bonus points in the end-term exam

WEEKLY ASSIGNMENTS & TUTORIALS

Organized and run by **Benjamin Dietrich** and **Dennis Butterstein**

1. Expand on lecture material
2. Develop additional code, run additional examples, ...
3. Discuss solutions to weekly assignments

Assignments and tutorials will start in the second week of the semester once we have collected the first batch of interesting material.

ADMINISTRATIVA (3)

LECTURE HOMEPAGE

<http://db.inf.uni-tuebingen.de/teaching/DatenbanksystemeIWS2015-2016.html>

- Download **slides** (PDF — please bring a print-out and take notes)
- Download **assignments** (also: sample data, database code, ...)
- **Contact information**
Just drop by our offices (Sand 13, 2nd floor, rooms B312/B314/B318), send e-mail first if you require specific help/longer attention
- Please visit page in a regular fashion (“... *assignment unsolvable as given...*”, “... *no lecture on...*”, etc.)

TOUCH THE DATA

- Whenever reasonable, we will try to lay our hands on data (and not only talk about it)
- Expect lots of **live interaction with data files and tools** during the course
- We will use the programming language **Python** to perform ad-hoc manipulation of data files and illustrate database system functionality



python.org, Python 2.7 assumed, Python 3 probably OK

- Basic Python constructs suffice (mostly nested loops, conditionals, arrays, dictionaries)

TOUCH LOTS OF DATA

- The Relational Database System **PostgreSQL** will be the primary tool in this course



- Straightforward to install and use on a variety of platforms (OS X, Linux, Windows)
- Complete, standards-conformant, efficient, extensible, open to inspection, and generally awesome
- Implements **SQL** (*The Intergalactic Dataspeak*), the main language spoken in this course

QUESTIONS SO FAR?

- *Can I bring my mobile computing device to the lecture?*

Yes, if you use it to run Python or PostgreSQL ツ

- *Do I need to copy the Python/SQL/... code that you develop during the lecture?*

No, (most) code and data will be available on the course home page

- *Do you value feedback (on course contents as well as form)?*

Most definitely (also: you *will* find bugs in the slides/material).

Find me and this course on http://www.meinprof.de/lecturers/Torsten_Grust

