Information Systems

Organization

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Organization

- Course web page:

  http://www.risc.uni-linz.ac.at/education/courses/ws2017/is/

- Intended audience: students of mathematics who did not study related subjects before.

- Literature:
  - C. J. Date: An Introduction to Database Systems. Eights edition, Addison Wesley, 2004.
  - G. Brill: Codenotes for XML, Random House, 1998.
  - Lecture notes from the previous years.
  - Slides.
  - Material from the Web.

- Exercises will be given.

- Written exam at the end of the semester.

Course Structure

Two parts:

- Databases
- XML

Course Structure. Databases part

- ▶ Theoretical foundations:
    - ▶ Relational data modeling;
    - ▶ Web-based information systems with relational database support (briefly).
- ▶ Practical tools:
    - ▶ MySQL.

Course Structure. Databases part

- Theoretical foundations:
    - Relational data modeling;
    - Web-based information systems with relational database support (briefly).
- Practical tools:
    - MySQL.

Goal: After the course, the student should have

- a clear concept of elementary problems and solution techniques in relational data modeling,
- basic knowledge in relational database manipulation.

Course Structure. XML part

- Basics:
  - Data description;
  - Document validation, transformation, querying.
- Tools:
  - XML editing and validation tools.
  - SAXON - The XSLT and XQuery Processor.

Course Structure. XML part

- ► Basics:
    - ► Data description;
    - ► Document validation, transformation, querying.
- ► Tools:
    - ► XML editing and validation tools.
    - ► SAXON - The XSLT and XQuery Processor.

Goal: After the course, the student should be able

- ► to create moderately complex XML documents,
- ► validate them using XML Schema,
- ► address their parts using XPath,
- ► transform them into a displayable HTML documents by XSLT.