

A large, faint watermark of the University of Udine seal is visible in the background. The seal is circular and contains the text "UNIVERSITAS STUDII UDINENSIS" around the perimeter. In the center, there is a shield with various heraldic symbols, including a cross and a crown.

DMBD – Part I

Structured Query Language

Andrea Brunello

`andrea.brunello@uniud.it`



- SQL (Structured Query Language) is the (largely) most popular language used to interact with relational databases.
- SQL is a very rich language, and it encompasses several functionalities:
 - insertion, update, deletion of tuples
 - definition of integrity constraints
 - definition and update of table schemas
 - management of data access criteria
 - management of concurrent access



Introduction (Cont.)

- SQL was born in the '70s, with the development of language *Sequel* by IBM, within the *System R* project
- Standard ANSI and ISO:
 - first version, SQL-86
 - latest version, SQL:2019
- Relational DBMSs offer (almost) all functionalities defined in standard SQL-92, other than (typically) several other proprietary features
- Actually, SQL implementations offered by different DBMS vendors are slightly different from one another, at least for what concerns advanced queries
- This hinders code interoperability