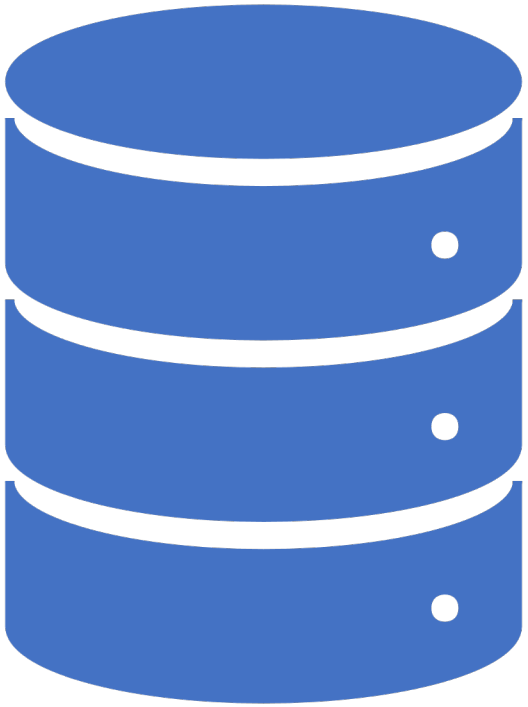

Lecture 8

Short review: Relational Databases. Appendixes

Short Review – Relational Databases

- Database Fundamentals
- The Relational Model
- SQL
- Functional Dependencies
- Normal Forms
- Relational Algebra

- For the next problem, create the database (with code and generate the database diagram) and imagine some SQL queries (re-write them by using the relational algebra) (at least 5), functional dependencies and also check the normal forms.
- Here, please, fill free to imagine the database.

Short Review – Relational Databases

Problem:
Create a database for a system that manages several web sites, which bring together customers and employers searching for holidays. The entities of interest to the problem domain are: Web Sites, Customers, Employers, Holidays and Payments. A web site has a title and an URL. An employer can offer holidays through several web sites and he / she has first name, last name and number of stars of experience. A customer has a first name, a last name, an age and a budget; he / she can buy several holidays. Each holiday has a destination name, a price and a number of days; it may be bought by one or more customers, knowing also the departure date, the number of persons and the final price. Each payment is done by a customer and it is related to the choosen holiday.

Posible solutions: Employers – WebSites: 1-n; Employers – Holidays: 1-n; Customers – Payments – Holidays: m-n;
or: Employers – Holidays – WebSites: m-n; Holidays – HC – Customers: m-n; HC – Payments: 1-n;

Remark: Usualy there is only one correct database corresponding to the given description.