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DATABASE MODELS - ESEJ

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What is a database? A possible definition is that a database is a collection of records or information which is stored in computer in a systematic way, so that computer program can consult it to answer questions. The ~~(the)~~ term database originated within the computer industry.

The term database is linked with the terms schema and software. Many people and also many programmers use the term database for the schema and for the software, too. But it is mistake.

The database is a collection of records (objects).

The schema describes the objects of the database.

And the software (DBMS = database management system) is the computer program. This program ^{is} used to manage and query database.

There are a number of different ways of organizing a schema. These are known as database models.

We distinguish ^{four} basic types of data models:

1) Hierarchical model - there are data organized into a tree-like structure. This structure allows only one-to-many relationship and each record represents a node in the tree.

2) Network model - there are data organized using two fundamental constructs, called "records" and "sets". It is generalization of the hierarchical model.

3) Relation model - this is best known and very ^{simple} model. This schema contains the entities as an ^{expression} of real objects,

the attributes as the expression characteristics of an entity, an identification of primary and foreign keys and the integrity constraints.

4) Object model where is data represented in the form of objects as used in object-oriented programming.

The database models are everently used in all branches of science and technology and are important helpers in the structuring and organising data.

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Very well!

