

WIA2001 Database

Tutorial 7

1. There are two design strategies: 1) top-down 2) bottom-up

Top-down design begins by identifying the different entity types and the definition of each entity's attributes. It starts by defining the required data sets and then defines the data elements for each of those data sets.

Bottom-up design defines the required attributes and then groups the attributes to form entities.

2. Data dictionary provides a precise description of the characteristics of all the entities and attributes found within the database. Thus, it makes it easier to check for the existence of synonyms and homonyms, to check whether all attributes exist to support required reports, to verify appropriate relationship representations, and so on. The data dictionary's contents are both developed and used during the six DBLC phases.

3. Centralized design:

- productive when the data component has a relatively small number of objects and procedures.

- the design can be carried out and represented in a fairly simple database

- typically small, simple database and can be done by a single database administrator or by small, informal design team

Decentralized design:

- used when the system's data component has a considerable amount of entities and complex relations on which very complex operations are performed

- often used when the problem itself is spread across several operational sites and each element is a subset of the entire data set
- a carefully selected team of database designers tackle a complex database project

- 4.
- full backup/dump - all database objects are backed up in their entirety
 - differential backup - only modified / updated objects since last full backup are backed up
 - transaction log backup - only the transaction log operations that are not reflected in a previous backup are backed up.