Data Bases

TUTORIAL 2 : DBMS Models

Exercice 1 :

A DVD rental store wants to develop a database for its management.

The following elements should be taken into account:

A DVD has a unique number and contains a movie.

We want to be able to know for each DVD, how many times it has already been rented, and what is its state (from very good to bad). In the case where a DVD is rented, we have to know the name of the borrower and the loan date.

Several DVDs can contain the same movie.

A movie is described by a title, a duration, its director, and a list of its actors. It belongs to a film genre (comedy, action, fiction ...)

We would like to be able to find all the movies corresponding to a film genre.

An actor is described by his name, first name, and nationality

We must be able to know for each actor the movies in which he played

Questions :

1. Represent the Hierarchical scheme of this database.

2. Propose a Network scheme for this database.

3. Transform the resulting network scheme into a CODASYL network scheme.

4. Illustrate the solution through an example.

5. Represent the implementation of your example in the three models.