

Concepts related to Databases

Entity-Relationship Model

Design the corresponding E-RM ER to model the following realities:

1) Music Disk Sales

The music store sells disks of different music genres and by different performers.

Each music genre includes identifier, title, music genre, price and singer. For each singer the corresponding name and country are recorded.

Every disk corresponds to one singer , and one singer may have several disks.

Additionally, every disk includes a group of songs (identifier and title). One disk has several songs and one song may be present in different disks. The position of one song in a given disk is to be determined.

2) University

The University offers a variety of degrees. Each degree course has an identifier, a name, and the group of subjects imparted for that degree.

In turn, each subject has an identifier, a name, and the name of the professor in charge. One subject may be imparted by different professors, while one professor may teach only one subject.

Additionally, students register with an identifier, a name and an address. A student may register for different degree courses, and one degree course includes several students.

In what concerns exams, each exam is recorded with an identifier, and the corresponding date, subject name and the names of the students attending the exam. One students may attend several exams and one exam is attended by many students. The date on which a student is registered for an exam is to be determined, in addition to the mark obtained in each exam (whether the student passed or not).

3) Pharmacy

For each medicine sold at the pharmacy, there is an identifier, name, medicine type (pain reliever, antibiotic, etc.) in addition to the name of the lab that supplies that medicine.

The same medicine may be supplied by several labs, and one lab (identifier and name) may supply a variety of different medicine products. The manufacture date and the price of medicine products is to be registered for each lab.

There is also a record of medicine prescription slips. Each slip includes an identifier, the date (identifier and name) and the name of the medicine prescribed.

One prescription slip corresponds to only one physician and one medicine product, while one physician may issue several prescription slips, and the same medicine product may be on several prescription slips.

Logic Model and Physical Model

For each E-RM designed, define what is passed to tables, indicating, in each case, the attributes necessary as well as the primary and foreign keys.

Also indicate the data type that corresponds to each attribute.
