

Database Problems 1

Basic Concepts

Suppose you had to set up a database to describe the activities of a group of musicians. You need to record the following basic information about everybody: their name, and date and country of birth.

Some of these musicians are composers. You need to record, for each composer the title and date of all his or her compositions. You will also need to record when and where (town and country) these compositions have been performed, which musicians performed the composition and who conducted the performance. The conductor will always be one of the musicians we are recording information about.

Some of the musicians are performers and for these you need to record what instrument they play, at what level (i.e. well or badly) and for how long. Some musicians play more than one instrument and they need not play all their instruments at the same level. All musicians who perform do so as part of an ensemble. For each ensemble you need to record its name, who performs in it, what instrument they play, the country it is based in and the identity of the manager who will him or herself be a musician and may or may not be one of the performers. These ensembles are the ones that perform the music.

Describe what tables you would use to store this data. Give them self-explanatory column names and state which column or columns are the key for each table. Annotate all foreign key column names with an asterisk.