**Music Agency Relational Database Schema**

recordingLabel(labelID, labelName, location)

cd(cdCode, cdTitle, numberSold, year, labelID, groupCode)

song(songCode, songTitle)

musicalGroup(groupCode, groupName)

artist(artistID, firstName, lastName, yearBorn)

topCDs(cdCode, year, rating)

composedOf (cdCode, songCode, trackNumber)

topSongs(songCode, year, rating)

member(groupCode, artistID, fromDate, toDate)

writtenBy(songCode, artistID)

**Queries**

**The output schema for the query is given in parentheses following the query specification.**

1. Which songs appeared on the CD rated number one in 2003?

Order the results in ascending order on track number.

**(songCode, songTitle, trackNumber)**

2. For each group in the database, find the number of CDs rated in the top 10.

Order the results in descending order of the number of top 10 CDs.

**(groupCode, groupName, numberOfTop10CDs)**

3. What is the maximum, the minimum, and average number of tracks on CDs published since the year 2000? Order the results in chronological order by year.

**(year, maxNumber, minNumber, avgNumber)**

4. Find the total number of CDs sold by a group with a recording label.

Order the results in descending order by the total number of CDs sold.

**(groupCode, groupName, labelID, labelName, totalNumberSold)**

5. Which artists that have written a top 5 song are currently not members of any group?

Order the results alphabetically by last name and first name.

**(artistID, firstName, lastName, yearBorn)**

**Problem Statement**

A music survey agency wants to keep track of CD-titles, the songs in each title, the musical group that recorded the CD, the recording label that produced the CD, the artists that wrote the songs in the CD, and the ratings for each CD title and song title.

A recording label has a unique id, a name and a location. Each recording label produces several CD titles. But each CD title may be produced by one and only one recording label. A CD title has a title and a unique code. The year in which the CD was released and the number sold so far must also be recorded.

Each CD title consists of several songs, with a minimum of one song in each CD. Each song has a title and a unique code. The same song could also be present in multiple CD titles. Each song has a unique track number within a particular CD. For each year, the end-of-the-year rating (top 40) of each CD title and song title must be maintained.

A CD title is recorded by a single musical group, which has a name, and a unique code. A musical group may record several CD titles during its life span. The group consists of one or more artists, each of whom has a first name, last name and a unique id. The year in which the artist was born is also recorded. Since any artist may belong to multiple musical groups over time, the database must record the date when an artist joined a particular group and the date when he or she left the group. One or more artists write each song title on a CD. A single artist may contribute towards the writing of multiple song titles within a CD, but it isn’t necessary for an artist to write a song.

**ER Diagram for the Music Agency Enterprise**

