CSCI 366 – Database
Dr. Schwartz
Lab 3 (Many-to-Many Relationships)
100 pts

Consider the Entity-Relationship diagram distributed with this lab. **NOTE: the + sign with a crow's foot provides information about the identifier of the table. For example, a person-composition can be uniquely identified by the combination of psnid, compid and psncomprole.**

You're again going to use the template file that can be downloaded as an autolab handout for your submission.

1. (30 pts) Write and execute SQL statements to create the tables described above. Remember that you will need foreign key constraints to capture the one- and many-to-many relationships. You may need to drop your existing track, label, and cd tables. You can refer to the insert statements for more information on data types. The URL for the insert statements is: http://www.cs.millersville.edu/~schwartz/466/Labs/Chap5CDinserts.txt The provided insert statements will work if you've constructed the tables as shown (with columns created in the same order they appear.

   ** Assume that the foreign keys are always created as the last columns. If there is an association table like person-composition, assume that the primary key from the person table is the first foreign key column and the primary key to composition is last. The exception to all of this is track! The order of columns in the track table is cdid, trknum, rcdid, compid.

   ** Note that when you're creating primary and foreign keys, the combination of two fields should be recorded as ONE primary key or foreign key constraint. Having two separate foreign keys to two separate fields is different than having a foreign key to the combination of two fields. (One says both individual values must exist, the other says that the specific combination must exist).

   ** The rcddate field should be of type "date" for MySQL.

2. (10 pts) Write a SQL query to list the track number and composition title of all of the tracks on Giant Steps (be sure that you're using the key of the table to do this, and don't hardcode the key). Columns should be trknum and comptitle.

3. (15 pts) Write a SQL query to list the first and last names of the musicians and the instruments they played for the May 4, 1959 recording of 'Giant Steps'. Columns should be psnfname, psnlname, psnrcdrole.

4. (15 pts) Write a SQL query to list the composers who write music and play tenor sax. Each person should only be listed once in the results. Columns should be psnfname, psnlname.

5. (15 pts) List the name, track number and cdtitle of any compositions where the same composition appears as multiple tracks on a CD. Sort the data by composition title and track number. Note that this should include two different recordings of the same composition (so Countdown should be in your results). Columns should be comptitle, trknum, cdtitle.

6. (8 pts) Write a SQL query to list the recording id and recording date of all recordings that appear on all of the cds in the cd table. Write the query using EXISTS. Columns should be rcdid and rcddate.

7. (7 pts) Write a SQL query to return the same results as in the previous question, but do NOT use EXISTS.

PERSON-RECORDING	PERSON	PERSON-COMPOSITION	PERSON-CD
*psnrcdrole	*psnid psnfname psnlname	*psncomprole psncomporder	psncdorder

COMPOSITION

*compid
comptitle
compyear

RECORDING	TRACK	CD	LABEL
*rcdid rcdlength rcddate	*trknum	*cdid cdlblid cdtitle cdyear	*lbltitle lblstreet lblcity lblstate lblpostcode lblnation

Figure 5.7 CD (?)