



```
<Sgr name="H_Belafonte">
  <Song genre="folk" lg="cpe">Day O</Song>
  <Song genre="calypso" lg="en">Jamaica Farewell</Song>
</Sgr>
<Sgr name="J_Prasad">
  <Song lg="pa" genre="folk">Mera Dil Darda</Song>
</Sgr>
</SongList>
```

2. (20 points) Consider the XML schema underlying Listing 1 to a relational schema. Assume that SongList have unique listTitles, Sgrs have unique names within SongList, and within a Sgr, song titles (expressed as text fields) are unique.

Of the following statements, identify all that are true about mapping the above-mentioned XML schema to a relational schema using *the generalized TGE approach*

- A. Create a table SongList whose key is listTitle
- B. Create a table SongList with no columns
- C. Create a table Sgr with one column name, which is also its key
- D. Create a table Sgr with two columns name and listTitle; name is its key and listTitle is a foreign key to the SongList table
- E. The Song table has at least the columns genre and lg for the corresponding XML attributes
- F. The Song table has a column for the text
- G. The Song table has *both* the following foreign keys: name in Sgr and listTitle in SongList
- H. The key of the Song table is a composite of name and listTitle
- I. There is no need for a separate table for listTitle because it is promoted to help unquify its parent, SongList
- J. Many rows of the Sgr table may have the same name, but each such row would correspond to a different song title in Song

**Solution:** A, E, F, G, I

D is false because the Sgr's key should be a composite of name and listTitle

H is false because Song's key should also include its title text

J is false because the songs may be repeated in different song lists

More on the solution itself:

- listTitle is promoted to unquify SongList
- SongList(listTitle); key is listTitle
- Sgr(name, listTitle); key is (name, listTitle); foreign key on listTitle
- Song(name, listTitle, genre, lg, title-text); key is (name, listTitle, title-text); foreign keys on listTitle and name