

Databases 1

TD: SQL

Familiarize yourself with the database `music.db` available on the course web page. Draw the diagram of its relational schema paying careful attention to foreign keys. What do you think are the uses of the foreign key `Artist_ID` in tables `Dics`, `Listing`, and `Written`?

Query 0. Display the first 10 compact discs. (line count: 10)

```
SELECT * FROM Disc LIMIT 10;
```

Query 1. Display the CDs that came out in 1998. (line count: 35)

Query 2. Display the CDs published in 21st century. (line count: 142)

Query 3. Display the CDs that came out in the 90s. (line count: 291)

Query 4. Display the different names of states of CDs (without repetition). (line count: 4)

Query 5. Find the titles of all damaged CDs. (line count: 170)

Query 6. Find cheap used CDs (price below 11). Order the result by the price (ascending). (line count: 30)

Query 7. Find CDs that came out either in 1990 or 1995 and whose price is between 10 and 15. (line count: 26)

Query 8. Find the number of CDs that came out in the 80s and their price is between 12 and 14. (line count: 42)

Query 9. Find the total of prices of destroyed CD. (the answer is 627.97) (line count: 1)

Query 10. Find CD by 'The Beatles'. (line count: 6)

Query 11. Find CDs by 'AC DC' that came out in the 90s. (line count: 4)

Query 12. Find artists names who had a CD in 1991. (line count: 25)

Query 13. Find the sum of prices of all CD by Georges Brassens. (the answer is 200.73) (line count: 1)

Query 14. Find titles of song of the Rock genre. (line count: 5504)

Query 15. List titles of songs whose genre description uses the word 'afric'. (line count: 334)

Query 16. Find the number of folk songs whose lyrics are not covered by copyright. (the answer is 124) (line count: 1)

Query 17. Find song titles written by Jacques Brel. (line count: 134)

- Query 18.** Find artists who have written the song 'Anybody Seen My Baby?'. (line count: 2)
- Query 19.** find the number of CDs with songs written by Mick Jagger. (the answer is 54) (line count: 1)
- Query 20.** Find the song list on the CD A Night at the Opera, in the order of their position. (line count: 12)
- Query 21.** Find name of artists who have not written a single song. (line count: 1)
- Query 22.** List songs performed by Lenny Kravitz that are present on David Bowie's CDs. (line count: 1)
- Query 23.** Find CDs that contain at least one song performed by an artist different from the (main) artist of the disc. (line count: 37)
- Query 24.** Find CDs that contain at least one song written by an artist different from the (main) artist of the CD. (line count: 83)
- Query 25.** List the number and the average price of CD for every different state. (line count: 4)
- Query 26.** For every artist find the number of their CDs. Display the results in the descending order of the number of CDs (line count: 273)
- Query 27.** For every CD list its title and the number of songs it contains. display only CD with at least 10 songs (line count: 688)
- Query 28.** For every genre find the number of CDs that contain a song of this genre. Mind not to count the same CD more than once. Display genres with more than 50 songs (line count: 4)
- Query 29.** List the artists in the descending order of the average price of their CDs. List only those artists who have at least 4 CDs for which the average CD price is above 12. (line count: 61)
- Query 30.** Find CD whose list of songs is potentially incomplete. (Hint: compare the number of songs with the position of the last song). (line count: 3)
- Query 31.** Find frequent collaborators. Any pair of artists who have performed a song on the same CD are collaborators. If there are at least 2 CDs, then this pair are frequent collaborators. (there is only 4 such pairs). (line count: 8)