

Assignment-No-4 SQL Student-library Database

Create the following tables and populate them with sufficient amount of data.

ENTITIES:

Book (title, first-author, year, price, publisher)

Student (rollno, name, department)

Subject (sno, stitle)

RELATIONSHIPS:

Buys (rollno, title)

Covers (sno, title)

Studies (rollno, sno)

The keys for the entities are underlined. Choose appropriate keys and foreign keys for the relationships. The buys relationship gives the book titles bought individually by each student. The covers relationship gives the book titles covered by each student, where each subject may cover more than one book, and multiple subjects may cover a given book. The studies relationship gives the subjects studied by each student.

Write the following queries in SQL, and evaluate them on tables created and populated by you.

Note: Your tables must contain the right kind of tuples to demonstrate the correctness of each of your queries.

1. List the book titles published by Prentice Hall in ascending order of the year of publication.
2. List the book titles grouped by publisher name in alphabetic order and by year of publication within each group.
3. List the books having the word DATABASE in the title, in descending order of price.
4. List the publishers who have published more than five books in the period 2000 to 2002.
5. List the titles of the 10 most expensive books.
6. List the most expensive book title from each publisher.
7. List the second most expensive book title from each publisher.
8. List the publishers who have published at least one book in each year from 2002 to 2004.
9. List the publishers who have published at least one book in each year of last five years.
10. List the author having the most number of book titles.
11. List the author having the most number of book titles with any one publisher.
12. List the publisher having the maximum average book price.
13. List the difference between average price of all books which is covered by only one subject and the average price of all books which is covered by many subjects.
14. List the names of students of the CSE department who study some subject having the word DATABASES in its title.

15. List the names of students not belonging to CSE department, who have bought some book covered by the subject having the title NETWORKS.
16. List the names of students who have bought all the books covered by all subjects he/she studies.
17. List the names of students who have bought all the books covered by some subject he/she studies.
18. List the most recent book title covered in the subject having title DATABASES.
19. List the student for whom, average price of books covered by all subjects taken by him, is minimum.
20. List the names of students who have spent more than Rs 5000/- on books.
21. List the subject title for which the sum of the prices of the books covered is the maximum.
22. List the subject title for which the price of the minimum cost book covered is the maximum.
23. List the book titles bought by students who bought DATABASE SYSTEM CONCEPTS
24. List the subjects for which more than half of the students who study buy all the titles covered by that subject.
25. List the pair of subjects covered by at least one common book.

OTHER THING TO LEARN: How can you read tuples given in a plain text file into your database? Try to use BULK LOADER.