Queries repository: library database

Resources

Library database

One table queries examples

1. **SIMPLE QUERIES**
   - 1.1. List the books
   - 1.2. List all the members
   - 1.3. List the publishers
   - 1.4. List the genres
2. **ATTRIBUTE PROJECTION**. Use aliases for each attribute.
   - **Basic**
   - 2.1. Title and code of books.
   - 2.2. Name and surnames of members
   - 2.3. Publisher name and phone number
   - **Concat**
   - 2.4. Full name of members. Give also their entry date.
   - 2.5. Publisher name and full address.
   - **Distinct**
   - 2.6. Cities of members.
   - 2.7. Book codes of copies.
   - 2.8. Nationalities of authors.
   - **Count**
   - 2.9. Number of copies
   - 2.10. Number of members
   - **upper/lower**
   - 2.11. Name, followed by the last name of the members, in capital letters.
   - 2.12. Book titles, in lowercase.
3. **ORDER BY**
   - 3.1. Borrows, ordered by borrow date.
   - 3.2. Genres, ordered by name in descending order.
   - 3.3. Members, ordered by name and entry date.
4. **WHERE CLAUSE**
   - **Basic condition**
   - 4.1. Name and surnames of all members living in Manacor
   - 4.2. Name and surnames of all members living in Felanitx
   - 4.3. Number of members from Manacor
   - 4.4. Number of books borrowed by the member with the code 1.
   - **Conditions (AND, OR, NOT, BETWEEN)**
   - 4.5. All members' names and surnames living in Manacor or Felanitx.
   - 4.6. Members' names and surname living on Manacor with entry date previous to 01/01/2009.
   - 4.7. Members' names with code between 10 and 20
   - 4.8. All borrows table data for the books returned late.

   - **IS [NOT] NULL**
   - 4.9. Books without publisher
   - 4.10. Copy code and member code of all the not returned borrows.
   - 4.11. Name of members without phone.
   - 4.12. Publishers with phone
   - 4.13. Publishers with known state but unknown city
   - 4.14. Amount of members without phone.

LIKE
4.15.   Title of books containing the word 'TIERRA' or 'FUEGO'
4.16.   Title of books containing the word 'TIERRA' and not containing the word 'PILARES'.
4.17.   Members that have 'SANCHEZ' as one of their surnames.
Dates
4.18.   Today's date. (NOW).
4.19.   Members registered in 2009 (YEAR)
4.20.   Members registered in january of 2010. (YEAR, MONTH)
4.21.   Borrows between 2009 and 2013
4.22.   Borrows returned more than 15 days late (DATEDIFF).
4.23.   Borrows returned on Tuesday (WEEKDAY)
4.24.   Borrows returned between 15:00 and 17:00 (HOUR).
IN
4.25.   Books written in 'CA' or 'ES'.
4.26.   Publishers with one of the following postal codes: 8001, 8009, 8010, 8015.

Multiple table queries examples

1.   Title, full name of the author and name of the publisher of all books.
2.   Title, full name of the author and name of the publisher of the books in the language 'CA'.
3.   Members from Manacor that have borrowed any book.
4.   Members that have a book at home (not returned yet).
5.   Titles of the books borrowed by the member with the code 1.
6.   Name of the publishers that have published a history book.
7.   Full name of the authors that have written a book published by 'PLANETA'.
8.   Name of the authors distinct from 'NOAH GORDON' that have written a History book.
9.   Titles of books published by the publishers from Barcelona.
10. Name of the members that have borrowed a book from the genre 'Narrativa'.
11. Copy code and member code of the borrows made during the year 2011.
12. Titles of the books published by the same publisher as 'EL MEDICO'.
     a.   Find the 'EL MEDICO''s publisher
     b.   Titles of the books published by the publisher found in the previous exercise.
13. Full name of members living in the same town as member number 1.
     a.   Find the member number 1 city.
     b.   Find all members' full names living in the city found in the previous exercise.

Group by/Having
1.   **ONE TABLE WITHOUT CONDITIONS**
     1.1.   Authors code and the number of books written by them
     1.2.   Books code and theamount of copies of each book.
     1.3.   Genres code and the number of books of each genre.
2.   **MORE THAN ONE TABLE WITHOUT CONDITIONS**
     2.1.   Author's name and the number of books written by them.
     2.2.   Books title and the amount of copies of each book.
     2.3.   Genres name and the number of books of that genre.
     2.4.   Members name and the number of borrows for each member.
3.   **MORE THAN ONE TABLE WITH CONDITIONS**
     3.1.   List of members that have borrowed books more than 3 times.
     3.2.   List of members that have more than one book currently borrowed (not returned yet).
     3.3.   Amount of copies of every book published by 'PLANETA'. Return the title, language, author name and amount of copies by book, ordered by amount of copies and author name. Discard all books having less than 2 copies.
     3.4.   Titles of books belonging to more than one genre.
     3.5.   Return all the books of the genre 'Historia', giving the amount of borrows. Return only the ones that have been borrowed less than 10 times.

Join types
4.   Books without author (IS NULL)

5.   Books and their authors' including the books without an author.
6.   Books titles and their authors' complete names including the books without an author.
7.   Authors without a book.
8.   Members that never borrowed a book.
9.   Genres without books and books without genre.
10. Publishers without books published.
11. Books with no copies in the library.

Subqueries and more

12. Name of the authors distinct to NOAH GORDON who have written any history book. (MULTIPLES INNER JOIN)
13. Full name of the members who live in the same city as the member with code 1. (SUBQUERY WHERE OR SUBQUERY FROM)
14. Title of all books published by the same publisher as the book 'EL MEDICO'. (SUBQUERY WHERE OR SUBQUERY FROM + INNER JOIN)
15. Title of all books published by the same author as the book 'EL MEDICO'.
16. Title of the books that belong to any genre to which the book 'EL MEDICO' belongs to.
17. Name and surname of the oldest member of the library (oldest entry date).
18. Amount of books published by the same publisher as 'EL MEDICO'.
19. Total number of borrows and total amount of borrow returns during 2011.
20. For the book 'EL MEDICO', return the number of copies, number of copies currently borrowed, and number of copies available.
21. Days of the longest borrow of year 2011.
22. Book codes, number of copies and average of copies by book in the whole library.
23. Amount of distinct books borrowed by every member.
24. Average of days that every book has been borrowed.
25. Quantity of borrowings made by year.
26. Title of all books published by the same author as the book 'EL MEDICO' that were returned out of time or that have not been returned yet.
27. Total amount of borrows of members that borrowed a book during 2011.
28. Members that haven't borrowed a book this year.
29. Members that joined the same day as the member number 1.
30. Names and surnames of members that have any book not returned.
31. Titles of books written by authors that wrote more than 2 books.
32. Name and surnames of the members that borrowed more books. In case that we have a tie, show them all.
33. Information about members that borrowed the same book more than twice.
34. .For every book written by the author 'Follet', return the number of borrows and the average of days that they have been borrowed. Count todays' date for the copies that have not been returned yet.
35. Amount of borrows made by all the members that have been member for the same amount of years. Example, borrow_count 20, years 8.
36. Borrows data (dates, member and book) that have been returned 20 days or more late from the dead date, or that haven't been returned and the dead date is more than 20 days ago.
37. Member codes of the members that, during 2010, borrowed any book written by 'Gordon'.
38. Return the most borrowed book by year, and the times that was borrowed.
39. Average number of copies of every book.
40. The average of the number of copies for book
41. Amount of copies of the book with more copies.