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Laboratory Activity 3:

The screenshot displays a database management application interface. The top menu bar includes File, Edit, View, Query, Database, Server, Tools, Scripting, and Help. The left sidebar shows a tree view of the database schema, with 'librarymanagement' expanded to show 'Tables' and 'books'. The 'books' table is selected, showing its columns: BookID, Title, Author, ISBN, and Genre. The main window shows a query editor with the following SQL queries:

```
1 • SELECT * FROM books;
2 • SELECT * FROM Books WHERE Genre = 'Fiction';
3
4 • SELECT * FROM Books ORDER BY Title ASC;
5
```

The 'Result Grid' shows the results of the queries. The first query returns all rows from the 'books' table. The second query returns rows where the genre is 'Fiction'. The third query returns rows ordered by title in ascending order. The result grid is as follows:

BookID	Title	Author	ISBN	Genre
1	The Great Gatsby	F. Scott Fitzgerald	9780743273565	Classic
2	To Kill a Mockingbird	Harper Lee	9780061120084	Fiction
3	1984	George Orwell	9780451524935	Dystopian
4	Pride and Prejudice	Jane Austen	9781503290563	Romance
5	Moby Dick	Herman Melville	9781503280786	Adventure
6	War and Peace	Leo Tolstoy	9781400079988	Historical Fiction
7	The Odyssey	Homer	9780140268867	Classical Literature
8	The Catcher in the Rye	J.D. Salinger	9780316769488	Fiction
9	The Lord of the Rings	J.R.R. Tolkien	9780261103573	Fantasy
10	Brave New World	Aldous Huxley	9780060850524	Science Fiction
11	The Great Gatsby	F. Scott Fitzgerald	9780743273565	Classic

The bottom section shows the 'Output' window with a table of actions and their results:

#	Time	Action	Message
60	21:00:48	SELECT * FROM Books ORDER BY Title ASC LIMIT 0, 1000	50 row(s) returned
61	21:01:12	SELECT * FROM books LIMIT 0, 1000	50 row(s) returned
62	21:01:12	SELECT * FROM Books WHERE Genre = 'Fiction' LIMIT 0, 1000	10 row(s) returned
63	21:01:12	SELECT * FROM Books ORDER BY Title ASC LIMIT 0, 1000	50 row(s) returned
64	21:01:27	SELECT * FROM books LIMIT 0, 1000	50 row(s) returned
65	21:01:35	SELECT * FROM books LIMIT 0, 1000	50 row(s) returned

LibraryManagement x

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

librarymanagement

Tables

books

Columns

BookID

Title

Author

ISBN

Genre

Indexes

Foreign Keys

Triggers

members

Columns

Indexes

Foreign Keys

Triggers

transactions

Columns

Indexes

Foreign Keys

Administration Schemas

Information

Table: books

Columns:

BookID int AI PK

Title varchar(100)

Author varchar(100)

ISBN varchar(20)

Genre varchar(50)

Object Info Session

Query 1 books members transactions books x

Limit to 1000 rows

```
1 • SELECT * FROM books;
2 • SELECT * FROM Books WHERE Genre = 'Fiction';
3
4 • SELECT * FROM Books ORDER BY Title ASC;
5
```

Result Grid

BookID	Title	Author	ISBN	Genre
2	To Kill a Mockingbird	Harper Lee	9780061120084	Fiction
8	The Catcher in the Rye	J.D. Salinger	9780316769488	Fiction
12	To Kill a Mockingbird	Harper Lee	9780061120084	Fiction
18	The Catcher in the Rye	J.D. Salinger	9780316769488	Fiction
22	To Kill a Mockingbird	Harper Lee	9780061120084	Fiction
28	The Catcher in the Rye	J.D. Salinger	9780316769488	Fiction
32	To Kill a Mockingbird	Harper Lee	9780061120084	Fiction
38	The Catcher in the Rye	J.D. Salinger	9780316769488	Fiction
42	To Kill a Mockingbird	Harper Lee	9780061120084	Fiction
48	The Catcher in the Rye	J.D. Salinger	9780316769488	Fiction
* NULL	NULL	NULL	NULL	NULL

Books 18 x

Apply Revert Context Help

Output

Action Output

#	Time	Action	Message
61	21:01:12	SELECT * FROM books LIMIT 0, 1000	50 row(s) returned
62	21:01:12	SELECT * FROM Books WHERE Genre = 'Fiction' LIMIT 0, 1000	10 row(s) returned
63	21:01:12	SELECT * FROM Books ORDER BY Title ASC LIMIT 0, 1000	50 row(s) returned
64	21:01:27	SELECT * FROM books LIMIT 0, 1000	50 row(s) returned
65	21:01:35	SELECT * FROM books LIMIT 0, 1000	50 row(s) returned
66	21:01:55	SELECT * FROM Books WHERE Genre = 'Fiction' LIMIT 0, 1000	10 row(s) returned

Query Completed

LibraryManagement x

File Edit View Query Database Server Tools Scripting Help

Navigator: Schemas librarymanagement Tables books Columns BookID Title Author ISBN Genre Indexes Foreign Keys Triggers members Columns Indexes Foreign Keys Triggers transactions Columns Indexes Foreign Keys Administration Schemas Information

Query 1 books members transactions books x

Limit to 1000 rows

1 • SELECT * FROM books;
2 • SELECT * FROM Books WHERE Genre = 'Fiction';
3
4 • SELECT * FROM Books ORDER BY Title ASC;
5

Automatic help for

Result Grid

BookID	Title	Author	ISBN	Genre
13	1984	George Orwell	9780451524935	Dystopian
3	1984	George Orwell	9780451524935	Dystopian
43	1984	George Orwell	9780451524935	Dystopian
33	1984	George Orwell	9780451524935	Dystopian
23	1984	George Orwell	9780451524935	Dystopian
40	Brave New World	Aldous Huxley	9780060850524	Science Fiction
10	Brave New World	Aldous Huxley	9780060850524	Science Fiction
50	Brave New World	Aldous Huxley	9780060850524	Science Fiction
30	Brave New World	Aldous Huxley	9780060850524	Science Fiction
20	Brave New World	Aldous Huxley	9780060850524	Science Fiction
45	Moby Dick	Herman Melville	9781503280786	Adventure

Books 21 x Apply Revert Context Help Snip

Table: books

Columns:

Column	DataType	Attributes
BookID	int	AI PK
Title	varchar(100)	
Author	varchar(100)	
ISBN	varchar(20)	
Genre	varchar(50)	

Object Info Session

Query Completed

Output

Action Output

#	Time	Action	Message
64	21:01:27	SELECT * FROM books LIMIT 0, 1000	50 row(s) returned
65	21:01:35	SELECT * FROM books LIMIT 0, 1000	50 row(s) returned
66	21:01:55	SELECT * FROM Books WHERE Genre = 'Fiction' LIMIT 0, 1000	10 row(s) returned
67	21:02:37	SELECT * FROM Books ORDER BY Title ASC LIMIT 0, 1000	50 row(s) returned
68	21:02:41	SELECT * FROM books LIMIT 0, 1000	50 row(s) returned
69	21:02:44	SELECT * FROM Books ORDER BY Title ASC LIMIT 0, 1000	50 row(s) returned

Additional Questions/Discussions:

- How do WHERE and ORDER BY improve the functionality of SQL queries?
 - Data is filtered by the WHERE clause to display only pertinent information, and the ORDER BY clause arranges the results in a certain order. All of them work together to improve the efficiency of SQL queries and facilitate data organization for simpler analysis.

Conclusions:

- In order to manage and manipulate data in databases, Structured Query Language (SQL) is necessary. Users may effectively obtain, filter, and sort data with the help of simple SQL queries like SELECT, WHERE, and ORDER BY. These queries aid in data organization, enhance search engine results, and simplify database interactions. Comprehending these fundamental queries serves as the basis for more complex SQL procedures.