Chapter 2: Structured Query Language (SQL)

Laboratory Activity 3:

Laboratory Title: Structured Query Language (SQL) - Basic Queries
Chapter No. and Topic: Chapter 2 - Structured Query Language (SQL)
Discussions:
This activity covers the basics of querying data from a table using SQL.

Activity Description:
Learn how to retrieve data using SELECT, filter with WHERE clauses, and sort results using ORDER BY.

Objectives:

- Write basic SQL queries using SELECT.
- Apply filters using WHERE clauses.
- Sort results using ORDER BY.

Materials:

- MySQL Workbench or SQL client

Procedure:

1. Open MySQL Workbench and connect to the `LibraryManagement` database.
2. Retrieve all columns from the `Books` table:

sql

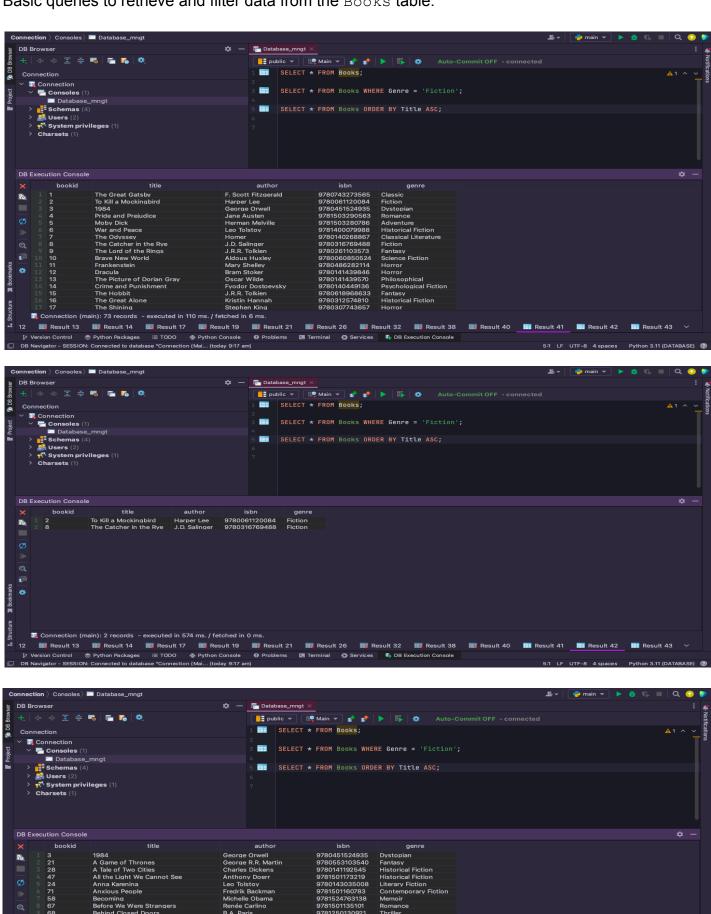Copy code

```sql
SELECT * FROM Books;
```

1. Retrieve books with the genre 'Fiction':

sql

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```sql
SELECT * FROM Books WHERE Genre = 'Fiction';
```

1. Sort the books by Title in ascending order:

sql

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```sql
SELECT * FROM Books ORDER BY Title ASC;
```

Result:

Basic queries to retrieve and filter data from the `Books` table.

Additional Questions/Discussions:

- How do WHERE and ORDER BY improve the functionality of SQL queries?
    - The `WHERE` clause improves SQL queries by filtering records based on specific conditions, ensuring only relevant data is retrieved. The `ORDER BY` clause enhances functionality by sorting the results in ascending or descending order, making the output more organized and easier to analyze. Together, they optimize query efficiency and improve data presentation.

Conclusions:

In conclusion, the `WHERE` and `ORDER BY` clauses enhance SQL queries by filtering and organizing data efficiently. `WHERE` ensures only relevant records are retrieved, while `ORDER BY` sorts results for better readability. These functions improve query performance and data management.