The purpose of the report appears to be to provide insights into various aspects of book borrowing activities and user behavior within a library or similar system. The queries cover a range of topics, including:

1-Identifying Prolific Authors in Each Genre: This query helps identify authors who have written the most books within each genre, providing insights into the most influential authors in different areas.

2-Average Loan Duration of Books by Genre: This query calculates the average duration for which books are borrowed within each genre, helping to understand borrowing patterns and preferences.

3-Students with Overdue Books: This query identifies students who have borrowed books but have not returned them by the due date, potentially indicating issues with book return practices or reminders.

4-Top 10 Most Borrowed Books: This query lists the top 10 books that have been borrowed the most, providing insights into the most popular books in the library.

5-Students Who Have Borrowed Every Book of a Specific Author: This query identifies students who have borrowed every book written by a specific author, indicating strong interest or preference for that author's work among certain students.

6- Top Borrowed Genres by Students: this query is to identify the most popular book genres among students. This helps the library understand student preferences and make better decisions regarding collection development and resource allocation.

The relevant data selected for these queries includes information about books (title, category, author), borrowing activities (borrower ID, borrow date, return date), student information (name, email), and author details (last name). These data points are crucial for generating insights into book borrowing behavior and user preferences.

Query 1: Identify the Most Prolific Authors in Each Genre

SELECT

   b.CATEGORY,

   b.AUTHOR,

   COUNT(b.BOOKID) AS BooksWritten
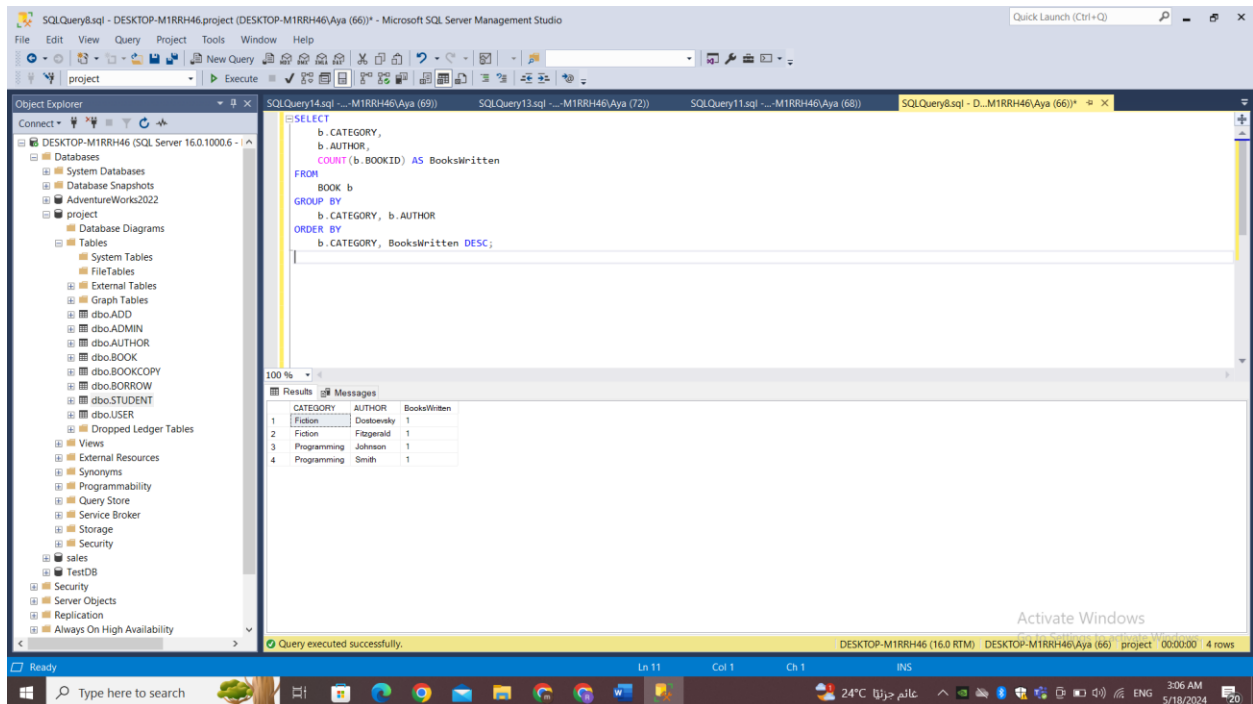
FROM

   BOOK b

GROUP BY

  b.CATEGORY, b.AUTHOR

ORDER BY

  b.CATEGORY, BooksWritten DESC;

Query 2: Find the Average Loan Duration of Books by Genre

SELECT

  b.CATEGORY,

  AVG(DATEDIFF(day, br.BORROWDATE, br.RETURNDATE)) AS AvgLoanDuration
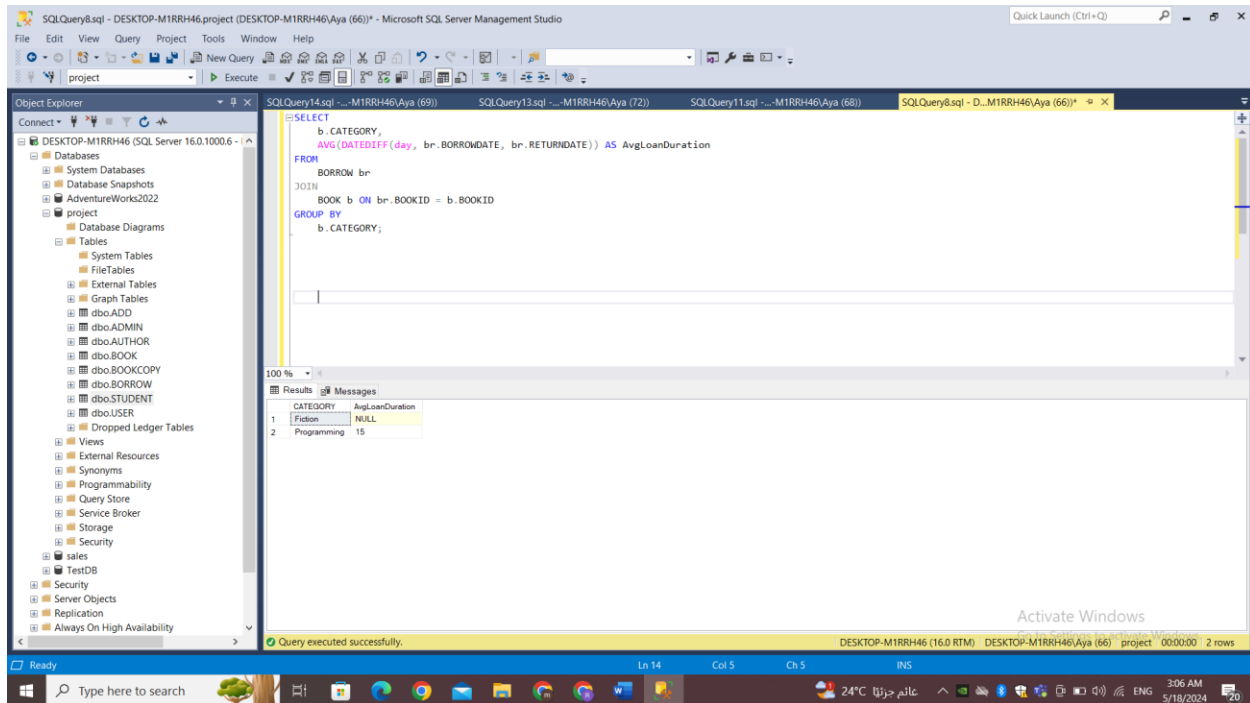
FROM

  BORROW br

JOIN

  BOOK b ON br.BOOKID = b.BOOKID

GROUP BY

  b.CATEGORY;

Query 3: Find Students Who Have Overdue Books

SELECT

   s.FIRSTNAME,

   s.LASTNAME,

   s.EMAIL,

   b.TITLE,

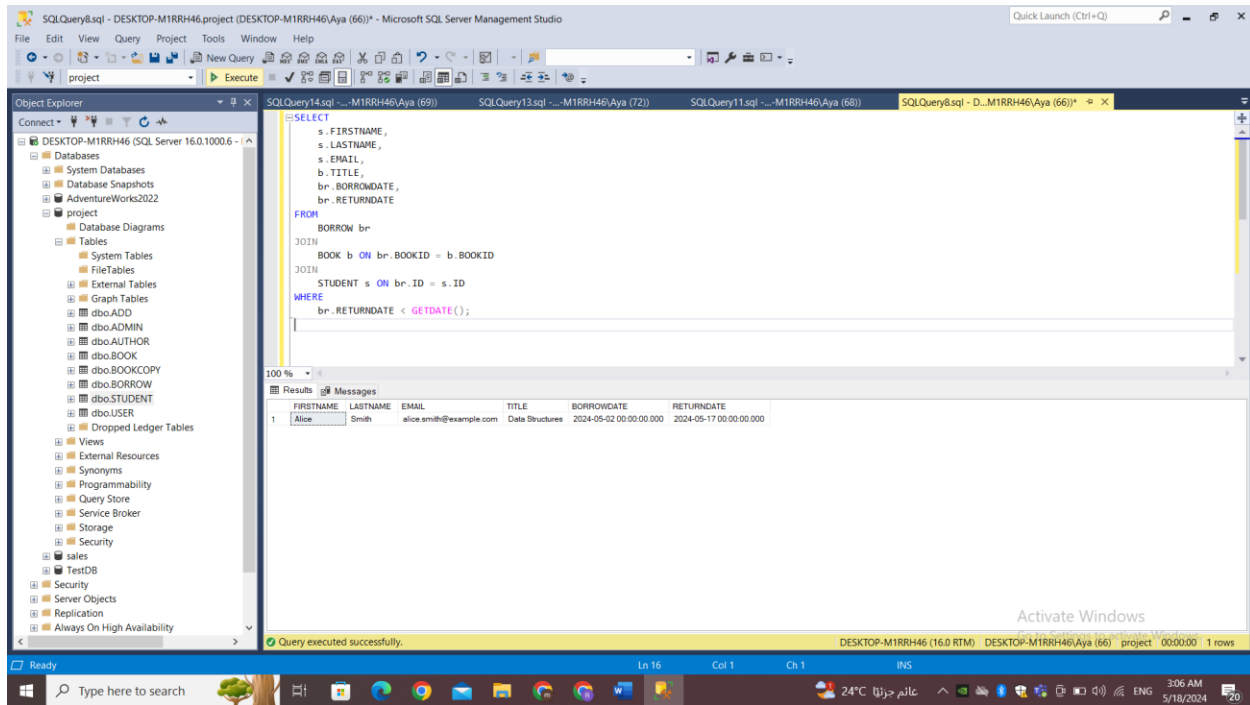   br.BORROWDATE,

   br.RETURNDATE

FROM

   BORROW br

JOIN

   BOOK b ON br.BOOKID = b.BOOKID

JOIN

   STUDENT s ON br.ID = s.ID

WHERE

   br.RETURNDATE < GETDATE();

Query 4: Top 10 Most Borrowed Books

SELECT TOP 10

   b.TITLE,

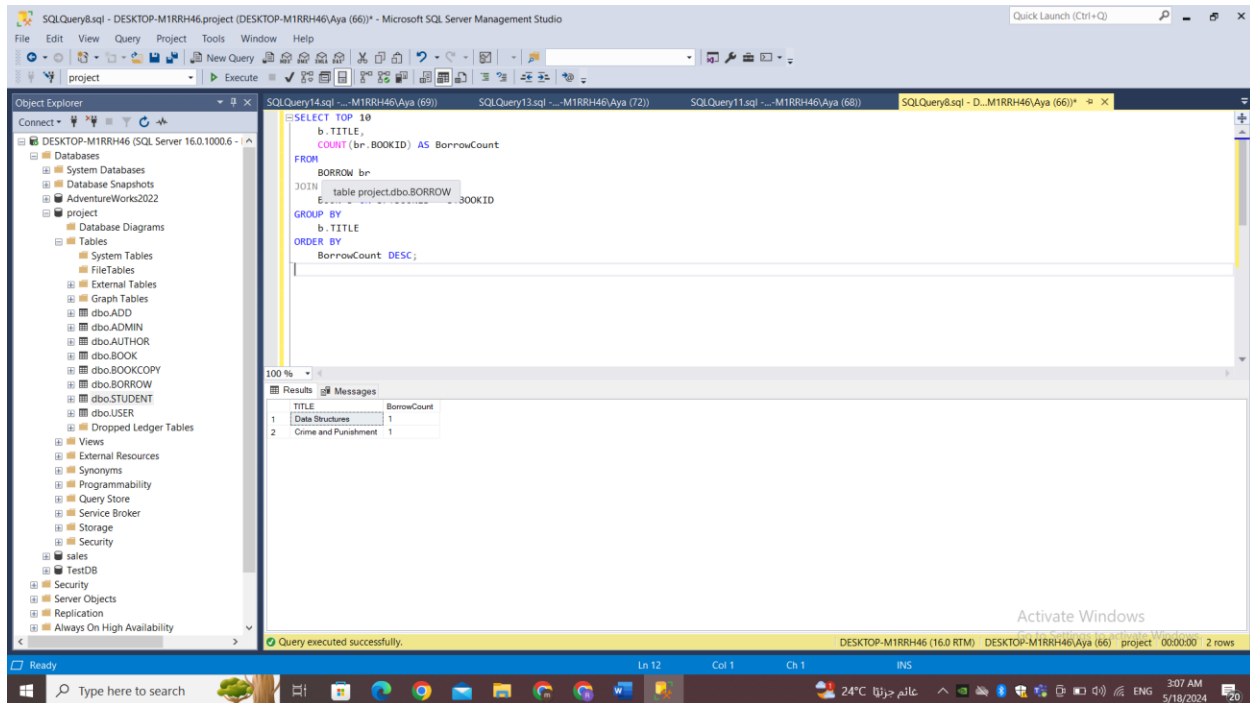   COUNT(br.BOOKID) AS BorrowCount

FROM

   BORROW br

JOIN

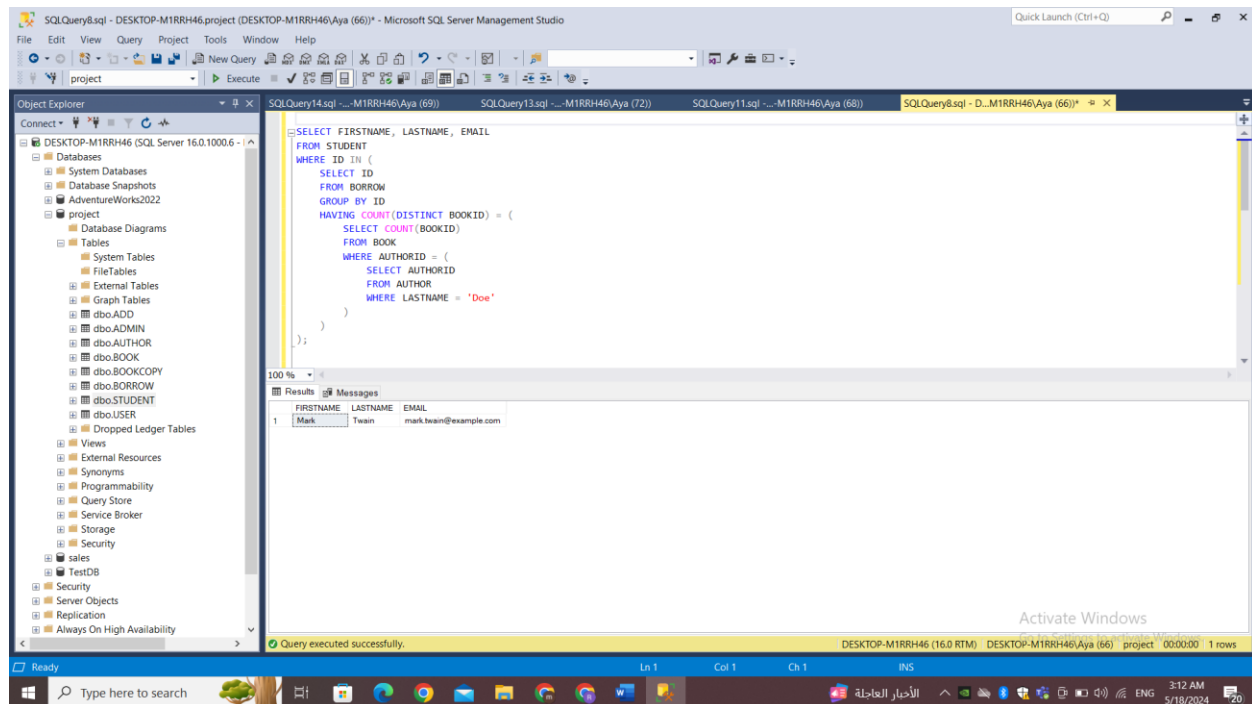   BOOK b ON br.BOOKID = b.BOOKID

GROUP BY

   b.TITLE

ORDER BY

   BorrowCount DESC;

Query 5: List Students Who Have Borrowed Every Book of a Specific Author

SELECT FIRSTNAME, LASTNAME, EMAIL

FROM STUDENT

WHERE ID IN (

   SELECT ID

   FROM BORROW

   GROUP BY ID

   HAVING COUNT(DISTINCT BOOKID) = (

     SELECT COUNT(BOOKID)

     FROM BOOK

     WHERE AUTHORID = (

       SELECT AUTHORID

       FROM AUTHOR

       WHERE LASTNAME = 'Doe'

)

)

);

Query 6:Top Borrowed Genres by Students

SELECT

   b.CATEGORY,

   COUNT(*) AS borrow_count

FROM

   BORROW br

JOIN

   BOOKCOPY bc ON br.BOOKID = bc.BOOKID AND br.COPYBOOKID = bc.COPYBOOKID

JOIN

   BOOK b ON bc.BOOKID = b.BOOKID

WHERE

   br.ID IN (

     SELECT

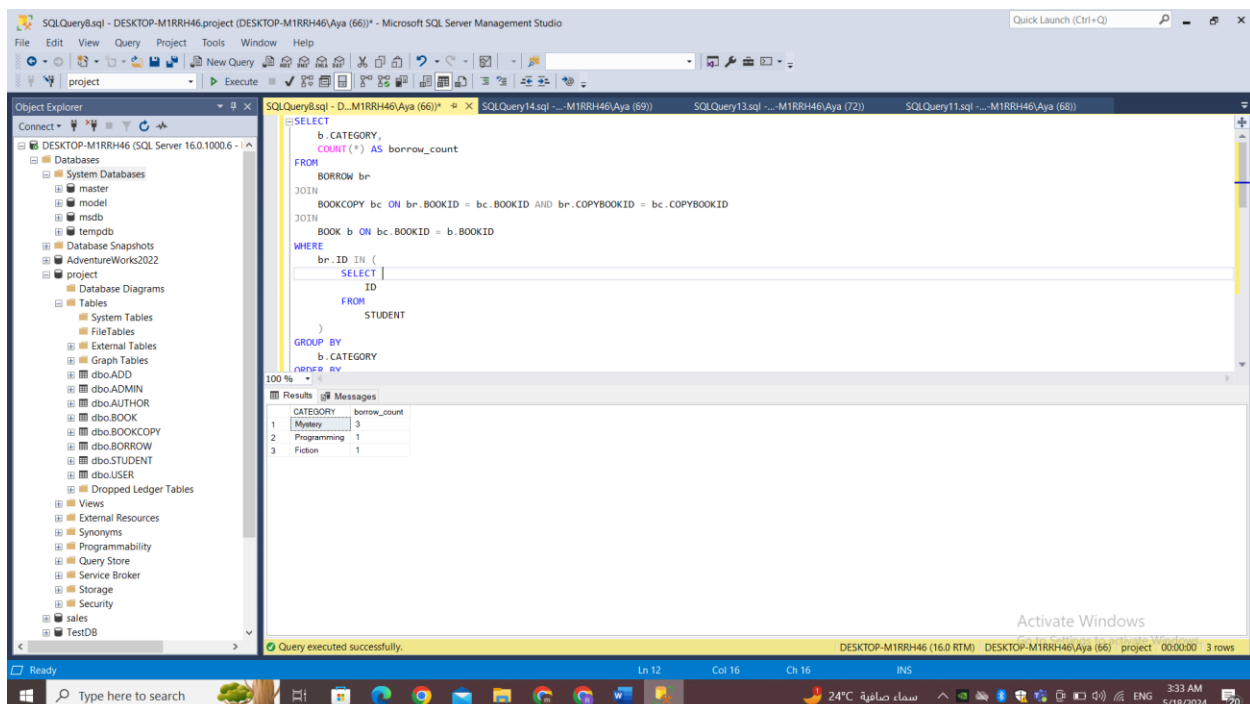   ID

```
    FROM

        STUDENT

  )

GROUP BY

  b.CATEGORY

ORDER BY

  borrow_count DESC
```


In conclusion, the provided queries offer valuable insights into various aspects of book borrowing activities and user behavior within a library or similar system. By analyzing data related to books, borrowing transactions, students, and authors, libraries can make informed decisions to improve their services, optimize their collections, and enhance user experience.

Key findings from these queries may include identifying popular authors and genres, understanding borrowing patterns and preferences, pinpointing overdue books and potential issues with return practices, highlighting the most borrowed books, and identifying users with diverse reading interests or strong preferences for specific authors.

Overall, these queries provide a solid foundation for data-driven decision-making in library management, helping libraries tailor their services to better meet the needs and preferences of their users.