Case Study: Library Database

Tables:

- `books`
  - book_id (INT, Primary Key)
  - title (VARCHAR(50))
  - author (VARCHAR(50))
  - genre (VARCHAR(20))
  - price (DECIMAL(5,2))
- `members`
  - member_id (INT, Primary Key)
  - member_name (VARCHAR(50))
  - membership_date (DATE)
- `borrowed_books`
  - borrow_id (INT, Primary Key)
  - member_id (INT, Foreign Key)
  - book_id (INT, Foreign Key)
  - borrow_date (DATE)
  - return_date (DATE)

1. **Insert a new book with the following details: book_id = 101, title = 'The Great Gatsby', author = 'F. Scott Fitzgerald', genre = 'Fiction', price = 10.99.**
2. **Update the price of the book with book_id = 101 to 12.99.**
3. **Delete the book with book_id = 101.**
4. **Insert a new member with the following details: member_id = 201, member_name = 'Jane Doe', membership_date = '2024-01-01'.**
5. **Update the membership_date of the member with member_id = 201 to '2024-02-01'.**
6. **Delete the member with member_id = 201.**
7. **Insert a new borrowed book record with the following details: borrow_id = 301, member_id = 202, book_id = 102, borrow_date = '2024-07-01', return_date = NULL.**
8. **Update the return_date of the borrowed book record with borrow_id = 301 to '2024-07-15'.**
9. **Delete the borrowed book record with borrow_id = 301.**
10. **Count the total number of books.**
11. **Count the total number of members.**
12. **Count the total number of borrowed book records.**
13. **Find the average price of books in the 'Fiction' genre.**
14. **Find the total number of books borrowed by each member.**
15. **Find all books in the 'Fiction' genre.**

16. **Find all members who joined after '2024-01-01'.**
17. **Find all borrowed book records where the borrow_date is '2024-07-01'.**
18. **Sort books by price in ascending order.**
19. **Sort members by name in alphabetical order.**
20. **Find the top 5 most expensive books.**
21. **Find members whose names start with 'J'.**
22. **Find books with prices between 5 and 20.**
23. **Find members who have borrowed at least one book.**
24. **Find books that have not been borrowed yet.**
25. **Find the total amount spent on borrowed books by each member (considering book price).**