SQL Error Log File

Attempted Action 1: Deleting a Member Who Has Loans

- **SQL Statement:**

```
1   DELETE FROM Member WHERE Member_ID = 1;
```

- **Error Message:**
  Msg 547, Level 16, State 0, Line 1

  The DELETE statement conflicted with the REFERENCE constraint
  "FK_Loan_Member_ID". The conflict occurred in database "LibrarySystemDB", table
  "dbo.Loan", column 'Member_ID'

- **Cause:** Member ID 1 has associated loans in the Loan table.
- **Resolution:** Either delete the loans first, or set ON DELETE CASCADE in the FK
  constraint.

Attempted Action 2: Deleting a Member Who Has Reviews

- **SQL Statement:**

```
DELETE FROM Member WHERE Member_ID = 2;
```

- **Error Message:**
  The DELETE statement conflicted with the REFERENCE constraint
  "FK_Loan_Member_ID". The conflict occurred in database "LibrarySystemDB", table
  "dbo.Loan", column 'Member_ID'
- **Cause:** Member ID 2 has reviews in the Review table.
- **Resolution:** Must delete associated reviews or apply cascading deletes.

Attempted Action 3: Deleting a Book That Is on Loan

- **SQL Statement:**

```
DELETE FROM Book WHERE Book_ID = 1;
```

- **Error Message:**
  The DELETE statement conflicted with the REFERENCE constraint
  "FK_Loan_Book_ID". The conflict occurred in database "LibrarySystemDB", table
  "dbo.Loan", column 'Book_ID'.
- **Resolution:** Delete loans or configure cascading.

Attempted Action 4: Inserting Loan for Nonexistent Member

SQL Statement:

```sql
INSERT INTO Loan (Book_ID, Member_ID, Payment_ID, Loan_Date, Due_Date, Status)
VALUES (1, 99, 1, GETDATE(), DATEADD(DAY, 14, GETDATE()), 'Issued');
```

Error Message:
The INSERT statement conflicted with the FOREIGN KEY constraint "FK_Loan_Member_ID". The conflict occurred in database "LibrarySystemDB", table "dbo.Member", column 'Member_ID'.

- **Cause:** Member ID 99 doesn't exist.
- **Resolution:** Insert only existing Member_IDs.

Attempted Action 5: Inserting Payment with Negative Amount

SQL Statement:

```sql
INSERT INTO Payment (Date, Amount, Method_ID)
VALUES ('2024-01-15', -10, 1);
```

Error Message:

The INSERT statement conflicted with the CHECK constraint "CK__Payment__Amount__49C3F6B7". The conflict occurred in database "LibrarySystemDB", table "dbo.Payment", column 'Amount'.

Cause: Negative amount violates constraint.

- **Resolution:** Enter a valid positive amount.

Attempted Action 6: Updating Book Genre to Invalid Value

- **SQL Statement:**

```sql
UPDATE Book SET Genre = 'Sci-Fi' WHERE Book_ID = 1;
```

- **Error Message:**
  The UPDATE statement conflicted with the CHECK constraint "CK__Book__Genre__3E52440B". The conflict occurred in database "LibrarySystemDB", table "dbo.Book", column 'Genre'.
- **Cause:** Genre 'Sci-Fi' not in CHECK constraint.
- **Resolution:** Use one of the allowed values: 'Fiction', 'Non-fiction', 'Reference', 'Children'.

Attempted Action 7: Inserting Review for Nonexistent Book

SQL Statement:

```sql
INSERT INTO Review (Member_ID, Book_ID, Review_Date, Comments, Rating)
VALUES (1, 999, GETDATE(), 'Great!', 5);
```

Error Message:
The INSERT statement conflicted with the FOREIGN KEY constraint "FK_Review_Book_ID".
The conflict occurred in database "LibrarySystemDB", table "dbo.Book", column 'Book_ID'.

- **Cause:** Book ID 999 doesn't exist.
- **Resolution:** Use an existing Book_ID.

Attempted Action 8: Updating Loan to Nonexistent Member ID

- **SQL Statement:**

```sql
UPDATE Loan SET Member_ID = 999 WHERE Loan_ID = 1;
```

- **Error Message:**
  The UPDATE statement conflicted with the FOREIGN KEY constraint
  "FK_Loan_Member_ID". The conflict occurred in database "LibrarySystemDB", table
  "dbo.Member", column 'Member_ID'.
- **Cause:** Member 999 doesn't exist.
- **Resolution:** Use only existing foreign key values.