

DB Schemas and ER Diagram

DB Schemas

1. Alarm(alarm_id, user_index, content, datetime)
2. Announcement(announcement_id, title, content, datetime, is_deleted)
3. Book(book_id, book_category_id, title, writer, publisher, year, price, discount, mileage, book_info, status_buy_enable, reader, like_count, borrow_count)
4. Book_Read(book_read_id, book_id, user_index, borrow_date, return_date)
5. Book_Recommend(book_recommend_id, category, book_id)
6. Book_Tag(book_tag_id, content, is_deleted, book_id, user_index)
7. Bookshelf(bookshelf_id, user_index, book_id, bookshelf_title)
8. Buy(buy_id, user_index, from_date, to_date, amount)
9. Category(category_id, type, content)
10. Comment(comment_id, user_index, post_id, event_id, datetime, parent_com_id, content, is_deleted)
11. Event(event_id, title, content, from_date, to_date)
12. FAQ(faq_id, category_id, title, content, is_deleted)
13. Inquiry(inquiry_id, category_id, title, content, attachment, email, phone)
14. Interest_Book(interest_book_id, book_category_id, interest_category_id)
15. Love(love_id, type, user_index, book_tag_id, post_id, book_id, love_status)
16. Notice(notice_id, title, content, datetime, is_deleted)
17. Post(post_id, user_index, post_category_id, interest_category_id, title, contents, datetime)
18. Post_Book(post_book_id, post_id, book_id)
19. Post_Category(post_category_id, user_index, title)
20. Post_Quot(post_quot_id, post_id, quotation_id)
21. Post_Tag(post_tag_id, post_id, content)
22. Quotation(quotation_id, user_index, book_id, content, datetime)
23. Subscribe(subscribe_id, user_index, follower_id)
24. User(user_index, name, nickName, password, phoneNumber, email, libraryName, libraryDescription, is_premium, sns, auto)
25. User_Interest_Catagory(UIC_id, user_index, category_id)

The diagram illustrates a database schema for a library system, featuring 18 tables and their relationships. Each table is represented by a blue box containing its attributes and primary/foreign keys. Relationships are indicated by solid lines for primary keys and dashed lines for foreign keys.

Tables and their attributes:

- Inquiry**: inquiry_id INT(11) (PK), category_id INT(11), title VARCHAR(45), content VARCHAR(45), attachment VARCHAR(45), email VARCHAR(45), phone INT(11).
- Book_Read**: book_read_id INT(11) (PK), book_id INT(11), user_index INT(11), borrow_date DATETIME, return_date DATETIME.
- Book**: book_id INT(11) (PK), book_category_id INT(11), title VARCHAR(45), writer VARCHAR(45), publisher VARCHAR(45), year INT(11), price INT(11), discount INT(11), mileage INT(11), book_info VARCHAR(1000), status_buy_enable TINYINT(4), reader VARCHAR(45), like_count INT(11), borrow_count INT(11).
- User_Interest_Category**: UIC_id INT(11) (PK), user_index INT(11), category_id INT(11).
- Interest_Book**: interest_book_id INT(11) (PK), book_category_id INT(11), interest_category_id INT(11).
- Love**: love_id INT(11) (PK), type VARCHAR(45), user_index INT(11), book_tag_id INT(11), post_id INT(11), book_id INT(11), love_status INT(11).
- Quotation**: quotation_id INT(11) (PK), user_index INT(11), book_id INT(11), content VARCHAR(45), datetime DATETIME.
- Post**: post_id INT(11) (PK), user_index INT(11), post_category_id INT(11), interest_category_id INT(11), title VARCHAR(45), contents VARCHAR(45), datetime DATETIME.
- Notice**: notice_id INT(11) (PK), title VARCHAR(45), content VARCHAR(45), datetime DATETIME, is_deleted TINYINT(4).
- Category**: category_id INT(11) (PK), type TINYINT(4), content VARCHAR(45).
- Book_Tag**: book_tag_id INT(11) (PK), content VARCHAR(45), is_deleted TINYINT(4), book_id INT(11), user_index INT(11).
- Bookshelf**: bookshelf_id INT(11) (PK), user_index INT(11), book_id INT(11), bookshelf_title VARCHAR(45).
- Event**: event_id INT(11) (PK), title VARCHAR(45), nickname VARCHAR(45), password VARCHAR(45), phoneNUMBER VARCHAR(45), email VARCHAR(45), libraryName VARCHAR(45), libraryDescription VARCHAR(45), is_premium INT(11), sms VARCHAR(20), auto TINYINT(4).
- User**: user_index INT(11) (PK), name VARCHAR(45), nickname VARCHAR(45), password VARCHAR(45), phoneNUMBER VARCHAR(45), email VARCHAR(45), libraryName VARCHAR(45), libraryDescription VARCHAR(45), is_premium INT(11), sms VARCHAR(20), auto TINYINT(4).
- Post_Quot**: post_quot_id INT(11) (PK), post_id INT(11), quotation_id INT(11).
- Post_Book**: post_book_id INT(11) (PK), post_id INT(11), book_id INT(11).
- FAQ**: faq_id INT(11) (PK), category_id INT(11), title VARCHAR(45), content VARCHAR(45), is_deleted TINYINT(4).
- Alarm**: alarm_id INT(11) (PK), user_index INT(11), content VARCHAR(128), datetime DATETIME.
- Post_Category**: post_category_id INT(11) (PK), user_index INT(11), title VARCHAR(45).
- Announcement**: announcement_id INT(11) (PK), title VARCHAR(45), content VARCHAR(1000), datetime DATETIME, is_deleted TINYINT(4).
- Post_Tag**: post_tag_id INT(11) (PK), post_id INT(11), content VARCHAR(45).
- Buy**: buy_id INT(11) (PK), user_index INT(11), from_date DATETIME, to_date DATETIME, amount INT(11).

Relationships:

- Inquiry** is linked to **Post** (category_id to post_category_id), **Book_Read** (category_id to book_category_id), **Book** (category_id to book_category_id), **User_Interest_Category** (category_id to interest_category_id), **Interest_Book** (category_id to interest_category_id), **Love** (category_id to interest_category_id), **Quotation** (category_id to post_category_id), **Post** (category_id to post_category_id), **Notice** (category_id to post_category_id), **Category** (category_id to post_category_id), **Book_Tag** (category_id to post_category_id), **Bookshelf** (category_id to post_category_id), **Event** (category_id to post_category_id), **User** (category_id to post_category_id), **Post_Quot** (category_id to post_category_id), **Post_Book** (category_id to post_category_id), **FAQ** (category_id to post_category_id), **Alarm** (category_id to post_category_id), **Post_Category** (category_id to post_category_id), **Announcement** (category_id to post_category_id), **Post_Tag** (category_id to post_category_id), and **Buy** (category_id to post_category_id).
- Book_Read** is linked to **Book** (book_id to book_id).
- Book** is linked to **Bookshelf** (book_id to book_id).
- User_Interest_Category** is linked to **Interest_Book** (user_index to user_index).
- Interest_Book** is linked to **Love** (interest_book_id to love_id).
- Love** is linked to **Post** (love_id to post_id).
- Post** is linked to **Post_Quot** (post_id to post_id).
- Post_Quot** is linked to **Post_Book** (post_id to post_id).
- Post_Book** is linked to **Post** (post_id to post_id).
- FAQ** is linked to **Post** (faq_id to post_id).
- Alarm** is linked to **Post** (alarm_id to post_id).
- Post_Category** is linked to **Post** (post_category_id to post_category_id).
- Announcement** is linked to **Post** (announcement_id to post_id).
- Post_Tag** is linked to **Post** (post_tag_id to post_id).
- Buy** is linked to **Post** (buy_id to post_id).

The diagram is a complex Entity-Relationship (ER) model for a book recommendation system. It includes the following entities and their attributes:

- User**: user_index, H_a, H_b
- Admin**: Writes (relationship with User)
- Normal_User**: Subscribe (relationship with User), Sends (relationship with Inquiry), Makes (relationship with User_Interest_Category), Saves (relationship with Quotation)
- Buy**: buy_id, announcement_id
- Announcment**: announcement_id
- Comment**: comment_id, is_contained (relationship with Event)
- Event**: event_index, post_tag_id, post_quotation_id
- Book_Read**: event_index
- Bookshelf**: announcement_id
- Catagory**: is_contained (relationship with Book_Read), is_contained (relationship with Post_Quot)
- Post_Quot**: post_quotation_id
- Post_Book**: post_book_id
- Book_Recommend**: book_recommend_id
- Interest_Book**: Interest_Book (relationship with Book_Recommend)
- Book**: book_id, contains (relationship with Post_Book), contains (relationship with Book_Recommend)
- Post**: post_index, has (relationship with Book), Contains (relationship with Book), Contains (relationship with Post_Quot)
- Post_Tag**: post_tag_id
- Book_Tag**: book_tag_id, loves_id
- Loves**: loves_id
- Reads**: alarm_index
- Gets**: alarm_index
- Alarm**: alarm_index, UIC_id
- User_Interest_Category**: UIC_id
- Post_Category**: post_category_index
- Quotation**: quotation_id
- Inquiry**: inquiry_id
- FAQ**: faq_id
- Notice**: notice_index

The diagram illustrates a rich set of relationships between these entities, including 'Writes', 'Loves', 'Reads', 'Gets', 'Makes', 'Saves', 'Buy', 'Announcment', 'Comment', 'is_contained', 'Contains', 'has', and 'Interest_Book'. It also shows various attributes like 'user_index', 'book_tag_id', 'post_index', 'alarm_index', and 'event_index'.