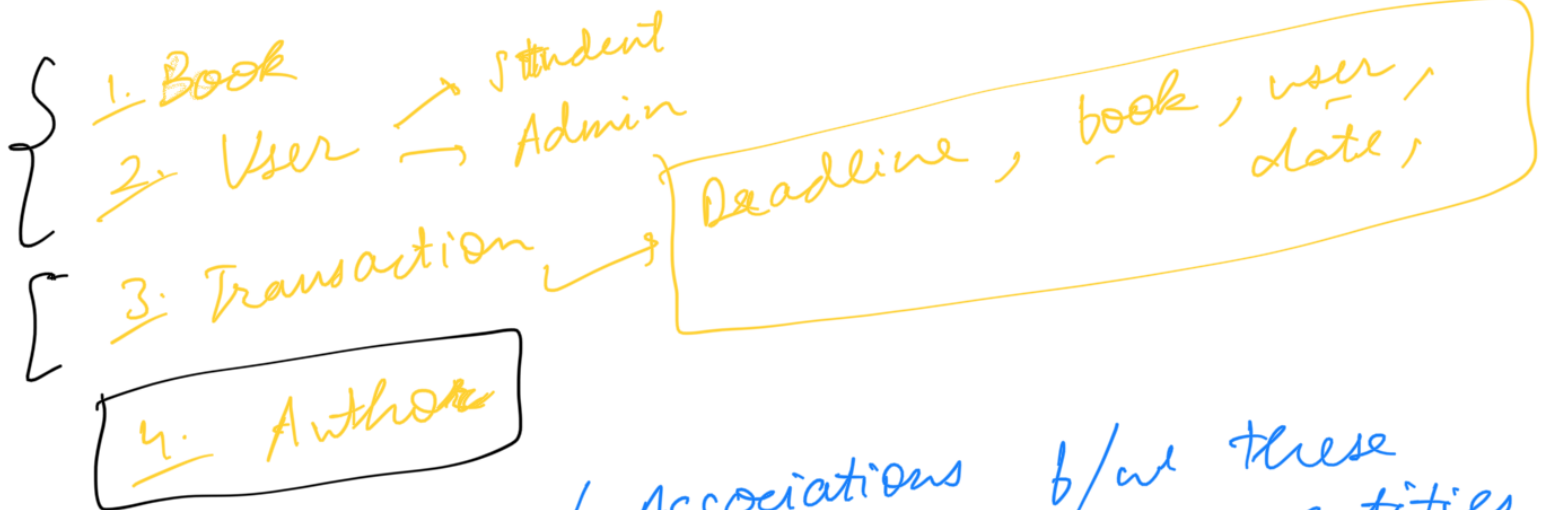# Minor Project →

Library Management System →
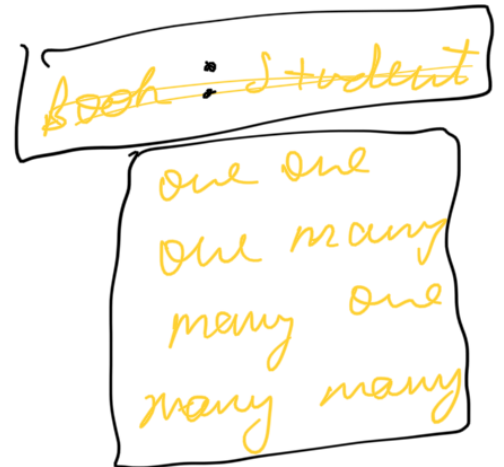
There is no limit, we need to design a system in 1 hour in a typical SD interview

① Identify all the actors/entities/objects/model
something which can be transaction upon

{
1. Book ⟶ Student
2. User ⟶ Admin
3. Transaction → Deadline, book, user, date,
4. Author
}

② Relationships / Associations b/w these entities *

Book . [n:1] Author
Book [n:1] Student

Transaction [n:1] student
[n:1] Book
Issue [n:1]
Issue [n:1] Admin

Book : Student
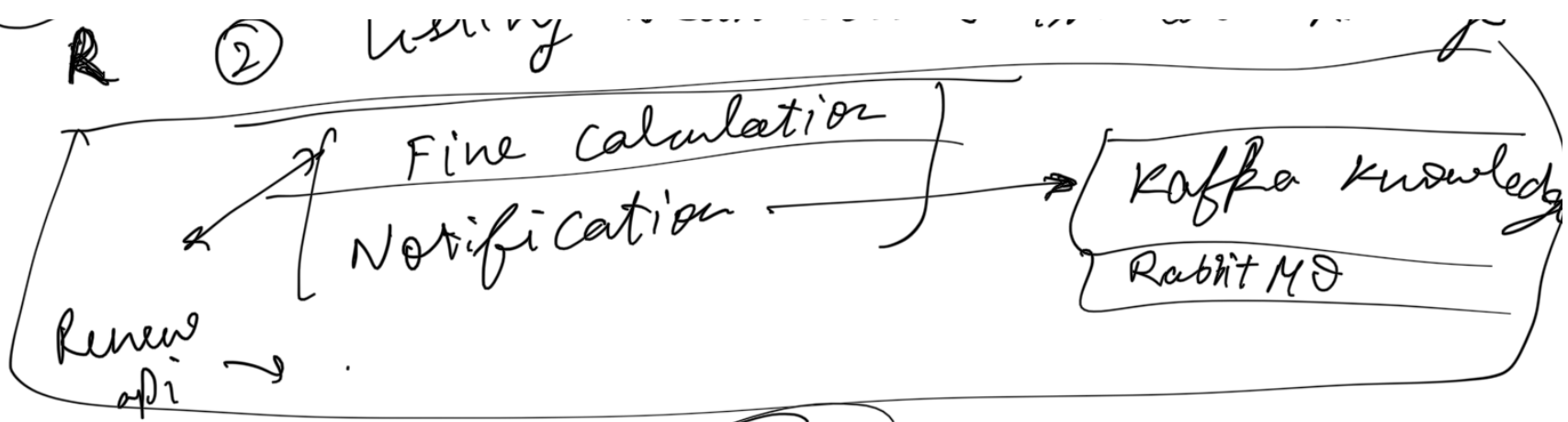
one one
one many
many one
many many

③ Functionalities Z

* Some functionalities can be overlapping as well

Transaction Z
① Issuing/Returning a book
↳ Involves Book, Admin, Stud

c

(ii) transactions in last n days

R ② Listing

Fine Calculation
Notification → Kafka Knowledge
Rabit MQ

Renew
api →

(CRUD)

Book →

① C [Adding]   → Admin
② R [Get Book]   → Student / Book
③ U [Updating a Book] → Admin
④ D [Deleting a Book] → Admin

CRUD

Student →

① Creation   → Admin
② Updation   → Admin
③ Get Student detail → Admin / Student
④ Get All
⑤ Student deletion → Admin

Lost Book →   Txn →
                    β → delete Book