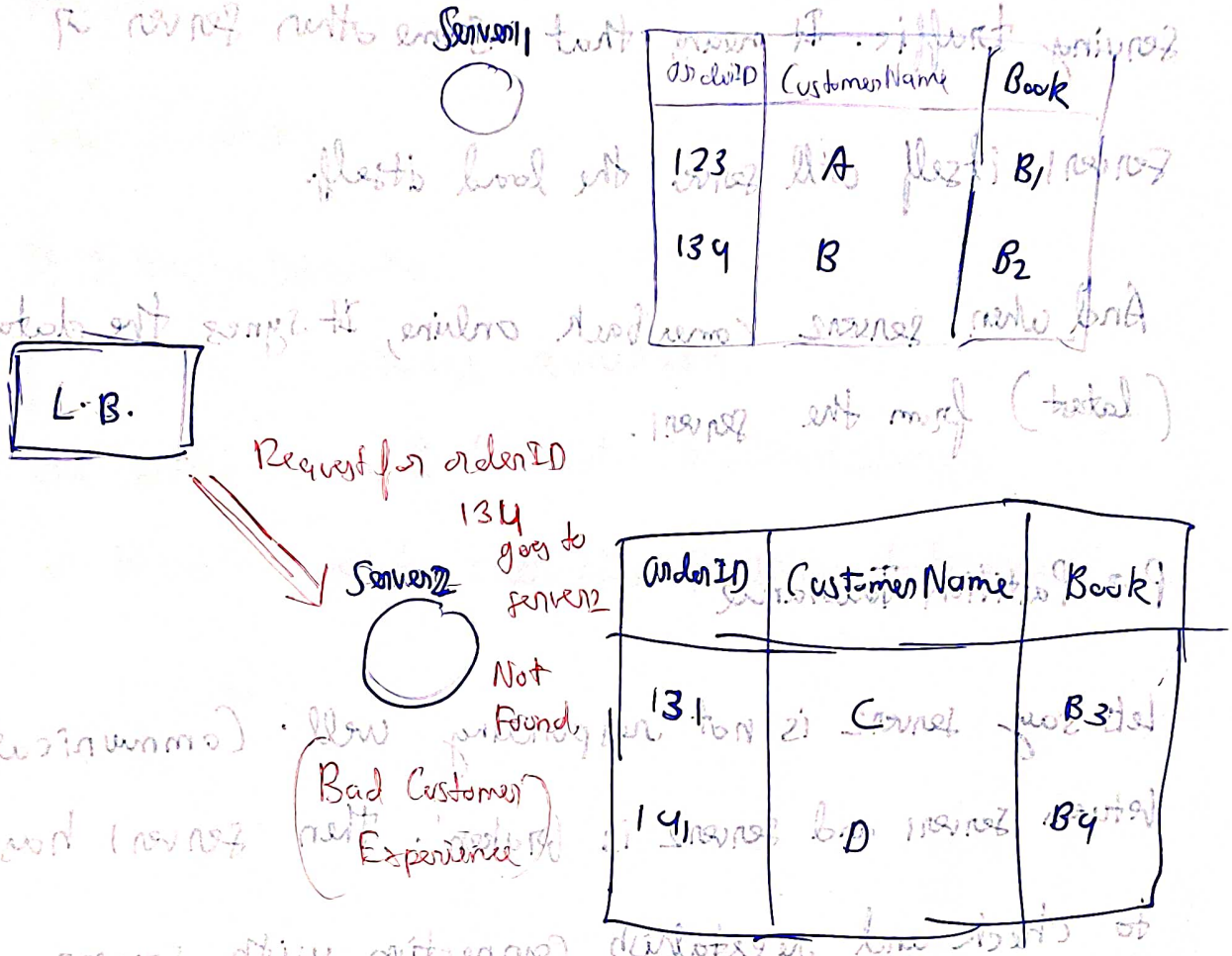
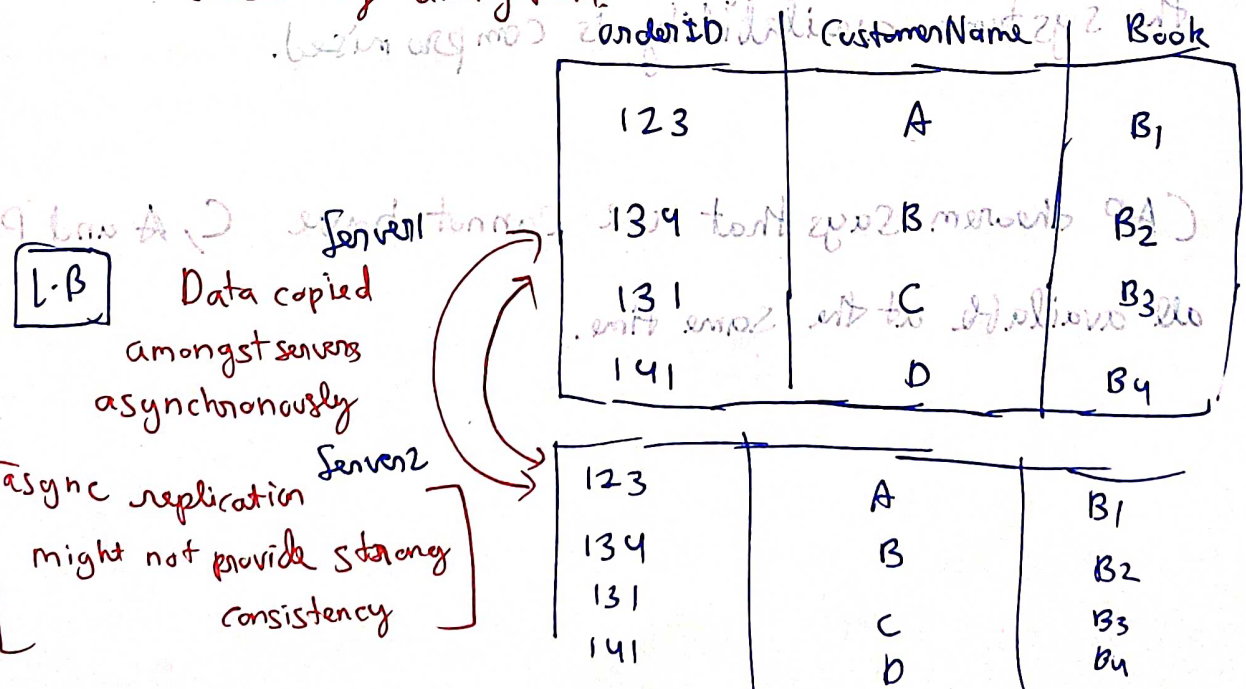
14. CAP Theorem with Proper Explanation

C- [Consistency]



Hence both servers need to maintain consistency among them.



A → Availability.

if Server 2 goes down, it does not mean that we stop serving traffic. It means that some other server → Server 1 itself will serve the load itself.

And when server 2 comes back online, it syncs the data (latest) from the server 1.

P → Partition Tolerance

Lets say server 2 is not responding well. Communication between server 1 and server 2 is broken. Then server 1 has to check and reestablish connection with server 2.

So when server 1 is trying to handle partition tolerance, the systems availability is compromised.

CAP theorem says that we cannot have C, A and P all available at the same time.

If I am willing to compromise on consistency,

I can have the system to be Available and Partition tolerant.

 → A & P

~~If I am willing to~~

If system is always available,

the either it will be not consistent enough,

or it will have to sacrifice Partition tolerance.