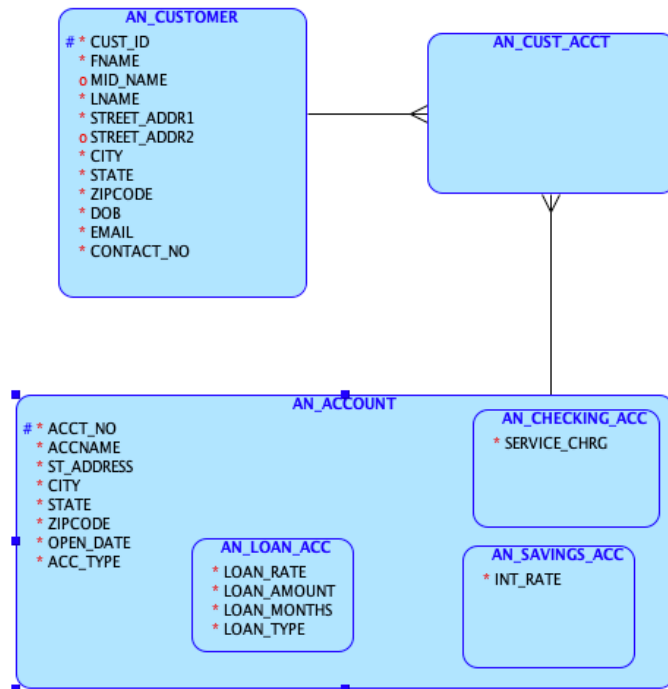
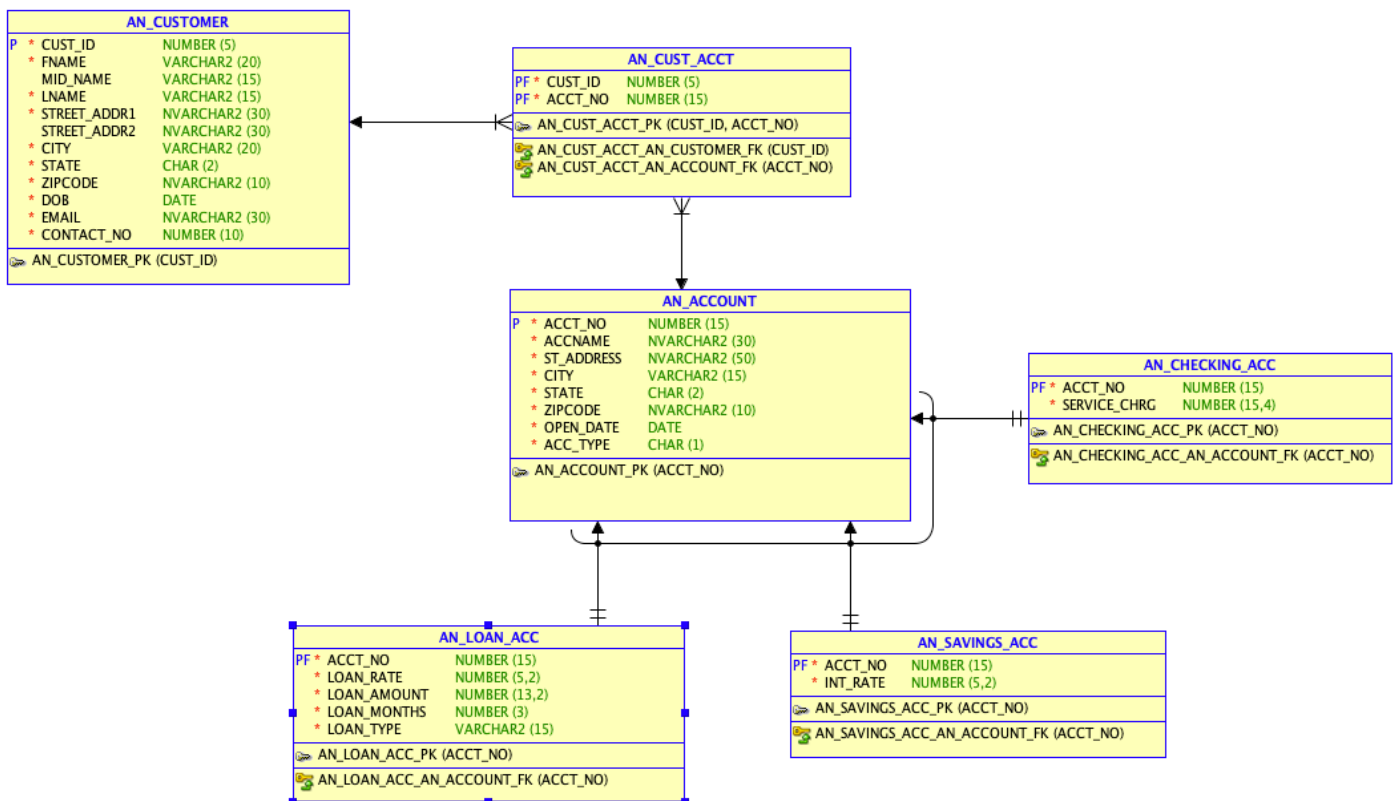


**AN3731**  
**ADITYA NARANG**  
**CS-GY 6083 - B, Fall 2022**  
**Principles of Database Systems**  
**ASSIGNMENT 2**  
**18 OCTOBER 2022**

Q1.  
LOGICAL MODEL:



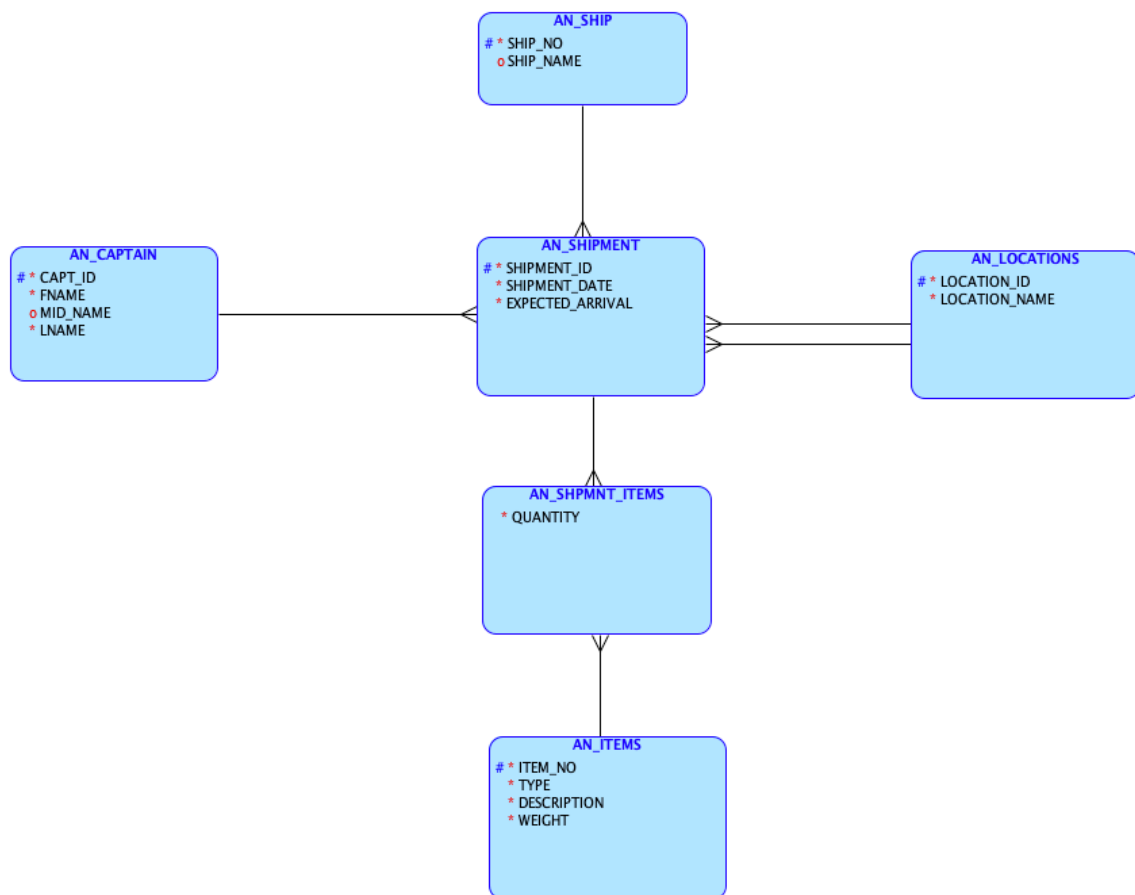
RELATIONAL MODEL:



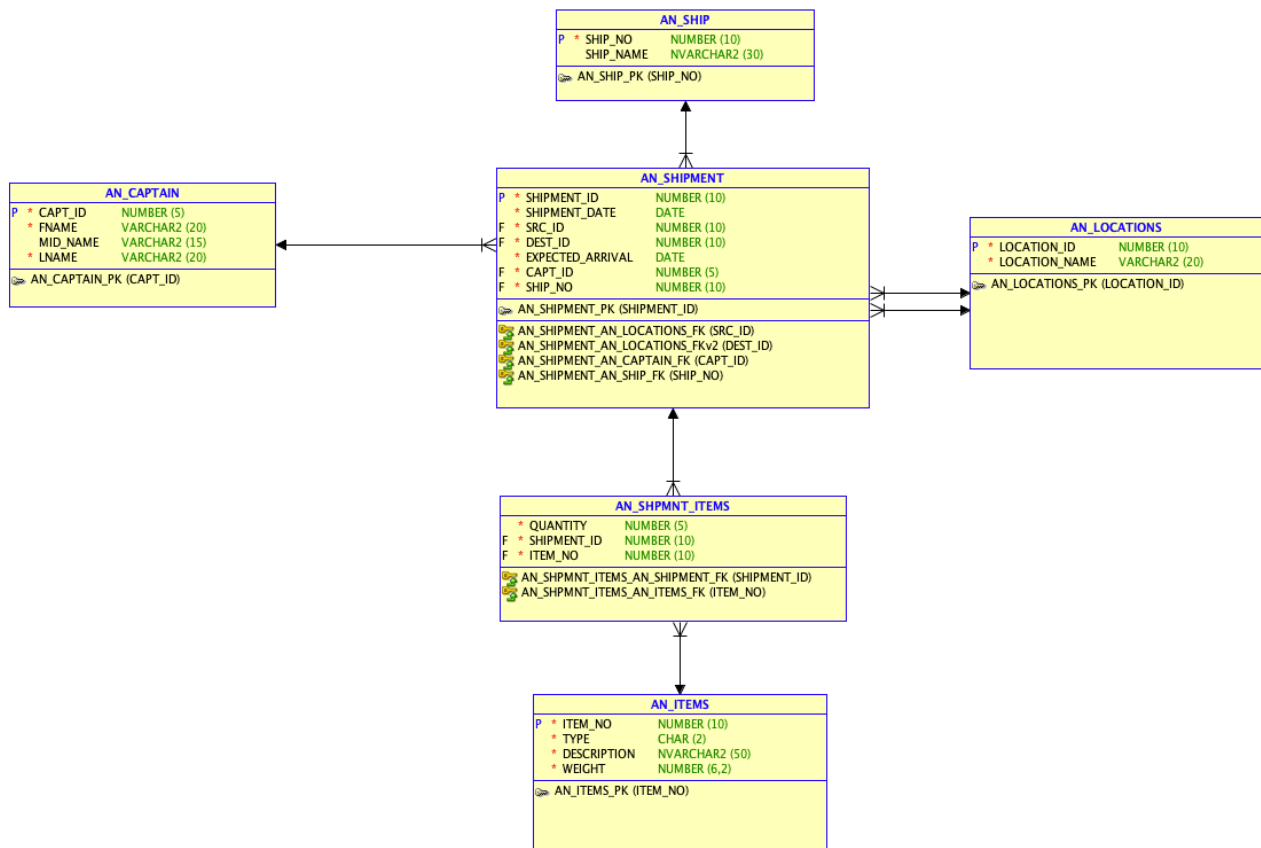
## ASSUMPTIONS:

- Each account has to be compulsorily just one of the three types. (Relationship is Disjoint and Total)
- ACCOUNT.ACCNAME can be customer's name or any other name they want to put.
- ACCOUNT.ACC\_TYPE is a single character and can only be among C,L or S for Checking, Loan and Savings respectively.
- LOAN\_PAYMENT is a calculated column which can be calculated from LOAN\_RATE, LOAN\_MONTHS AND LOAN\_AMOUNT. Hence it is eliminated and not in the LOAN table.
- MID\_NAME is optional for customers as many people don't have any.
- STATE uses a 2 character abbreviation for the state value. Eg: NY,AZ,MA, etc
- ZIPCODE can be 5 character or 9 character with a hyphen(-) in between.

## Q2. LOGICAL MODEL



## RELATIONAL MODEL



## ASSUMPTIONS:

- Company has specific locations it ships To/From and hence a separate table to maintain locations.
- Captain's mid name is not compulsory.
- Every item will belong to at least one shipment and each shipment will have at least one item.
- Every Ship will have at least one captain and every captain in the company will have at least one ship assigned.
- Different ships can have different captains for different shipments.
- Item type will be a mandatory 2 character value. BM/LM
- Total Weight and Shipment total are calculated columns and hence have been removed.
- Every shipment will have a single source and destination whereas each location can be source or destination to multiple shipments.