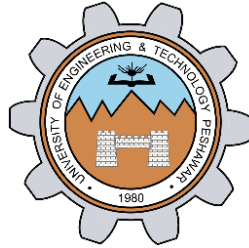


Database Management System

Assignment #01



Spring 2021

CSE403 DBMS

Submitted by: **Shah Raza**

Registration No. : **18PWCSE1658**

Class Section: **B**

“On my honor, as student of University of Engineering and Technology, I have neither given nor received unauthorized assistance on this academic work.”

Student Signature: _____

Submitted to:

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Thursday, June 17, 2021

Department of Computer Systems Engineering
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Conceptual Schema of Gym Management System

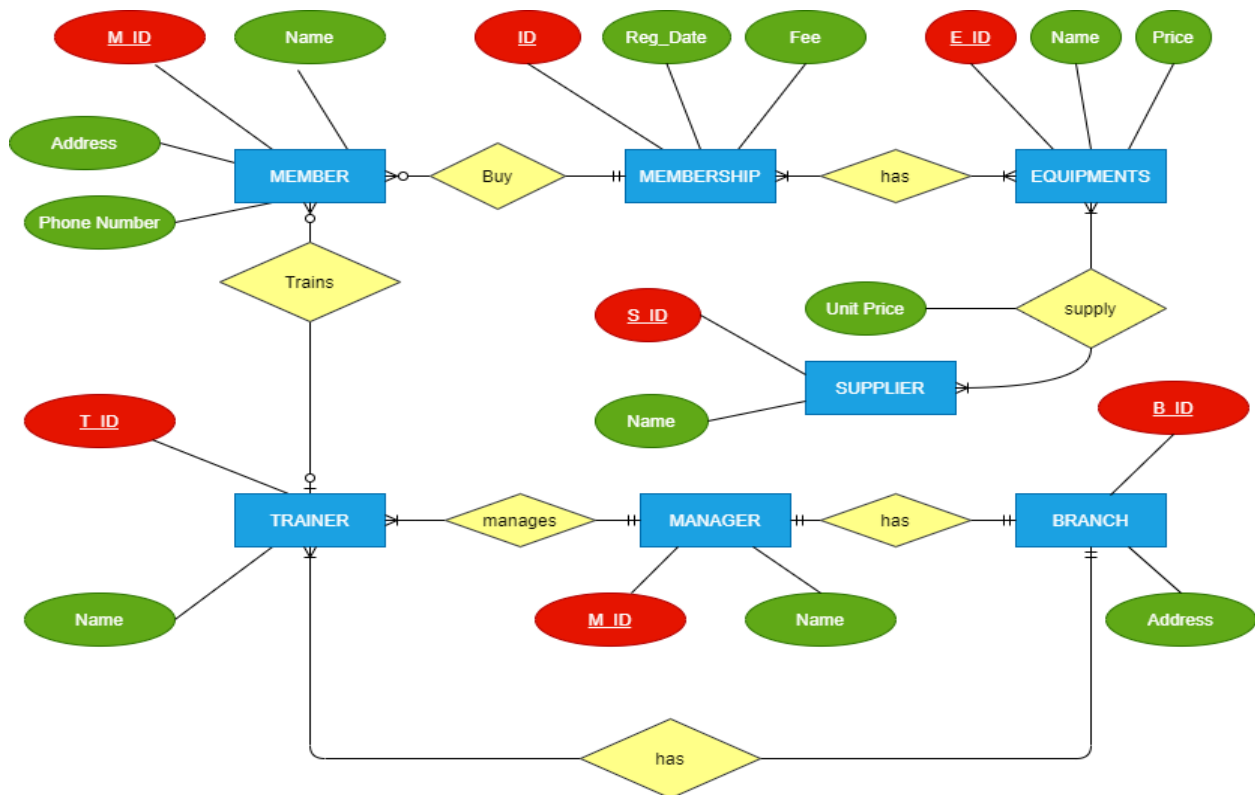
Entity Description Table:

MEMBER	Anyone who joins the gym. Example: Safder.
MANAGER	Manages gym members, trainers and timings etc. Example: Hamza.
MEMBERSHIP	The different types of memberships offered at our gym. Example: Silver, Gold, Premium.
SUPPLIER	An associate that provides the equipment we need. Example: Gym store.
EQUIPMENT	Different types of equipment at our gym. Example: Dumbbell, Treadmill etc.
TRAINER	Professional trainers working at our gym. Example: Khattak.
BRANCH	Different branches of our gym. Example: Hayatabad branch.

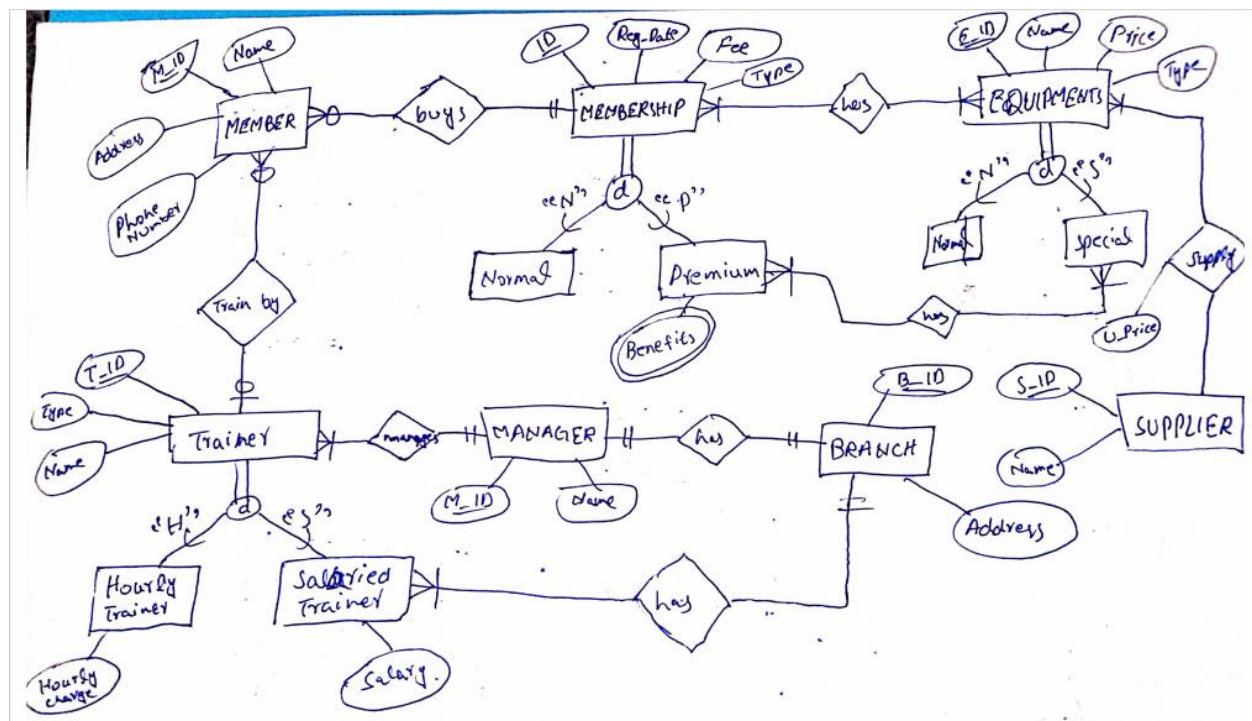
Business Rules:

1. A member may buy exactly one membership. A membership may be bought by any number of members.
2. A manager may manage one or more trainers. A trainer is managed by exactly one manager.
3. A trainer may train any number of members. A particular member is trained by one trainer only but needs not to be trained by any trainer.
4. Each manager manages exactly one branch and a branch is managed by exactly one manager.
5. A Supplier may supply any number of equipment. Each equipment is supplied by any number of suppliers (at least one).
6. A branch can have multiple trainers but each trainer must be assigned to only one branch.

ER Diagram:



Enhanced ERD:



Question 2:

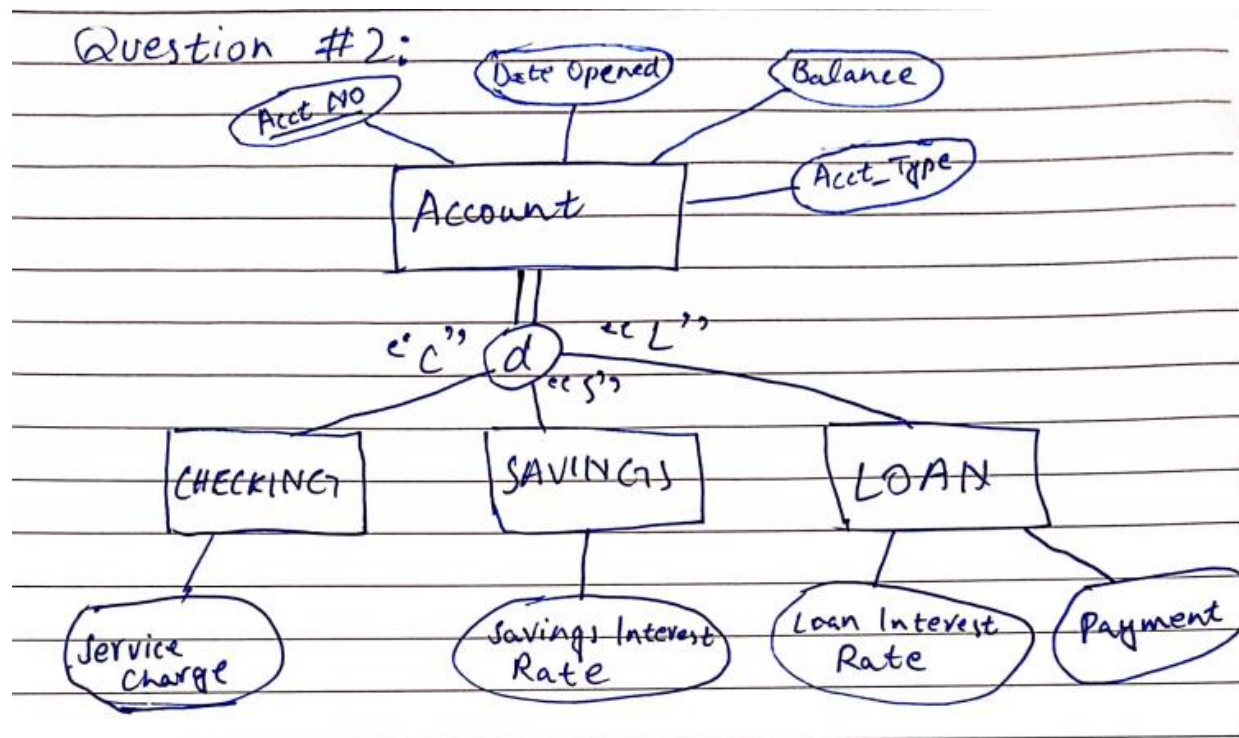
For the given scenario, draw the Enhanced ER Diagram (EERD) showing supertype-subtype entities, primary keys, and attributes. Include a subtype discriminator.

A bank has three types of accounts: checking, savings, and loan. Following are the attributes for each type of account:

- CHECKING: Acct No, Date Opened, Balance, Service Charge
- SAVINGS: Acct No, Date Opened, Balance, Savings Interest Rate
- LOAN: Acct No, Date Opened, Balance, Loan Interest Rate, Payment

Assume that each bank account must be a member of exactly one of these subtypes. Using generalization, develop an EERD to represent this situation. Remember to include a subtype discriminator.

Answer:



Question 3:

Answer:

