Experiment 13

Title: Case Study on ER Model and EER Model.

Theory:

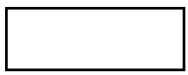
- Purpose of ER diagram

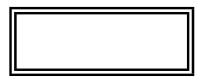
ENTITY RELATIONAL (ER) MODEL is a high-level conceptual data model diagram for database. ER modeling helps to analyze data requirements systematically to produce a well-designed database.

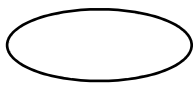
The Entity-Relation model represents real-world entities and the relationship between them. It is considered best practice to complete ER modeling before implementing your database.

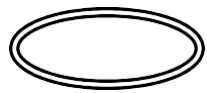
ER model can be converted to any other data model like relational or network model for actual database implementation.

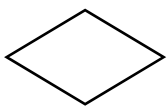
- Symbols used to represent components of ER diagram.

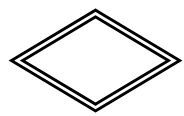
Entity 

Weak Entity 

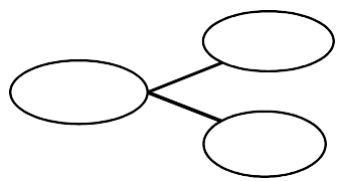
Simple Attribute 

Multivalued Attribute 

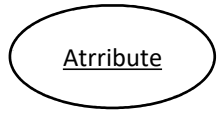
Relationship 

Weak Relationship 

Connecting line

Composite attribute 

Derived Attribute 

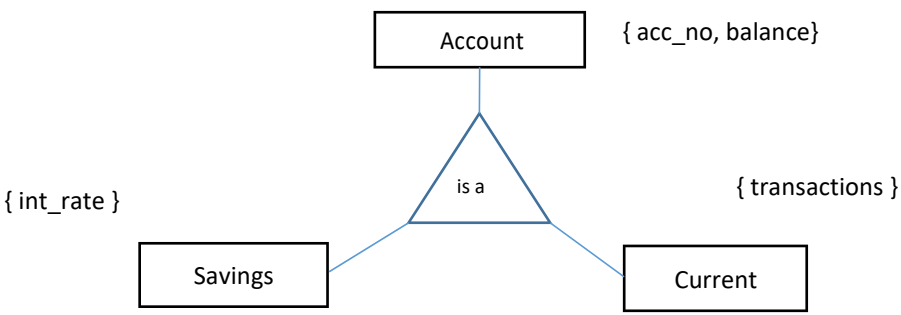
Key/single valued attribute 

- Purpose of EER diagram.

  Enhanced entity-relationship (EER) diagrams are basically an expanded upon version of ER diagrams. EER models are helpful tools for designing databases with high-level models.
  With their enhanced features, you can plan databases more thoroughly by delving into the properties and constraints with more precision.
  EER mainly used to display following relationship concepts:
  1. Super and sub class
  2. Specialization and Generalization
  3. Aggregation

- Generalization and Specialization concepts with example

  Generalization: In generalization, two or more lower level entities are combined together to form one higher level entity. I.e. Subclasses are combine together to form a super class
  It is a bottom to up approach.
  One higher level entity can also be combined with other lower level entities to form another higher level entity.
  Common properties among lower level entities to form higher level entity.
  For example,
  Savings and current accounts are both accounts with added special properties.

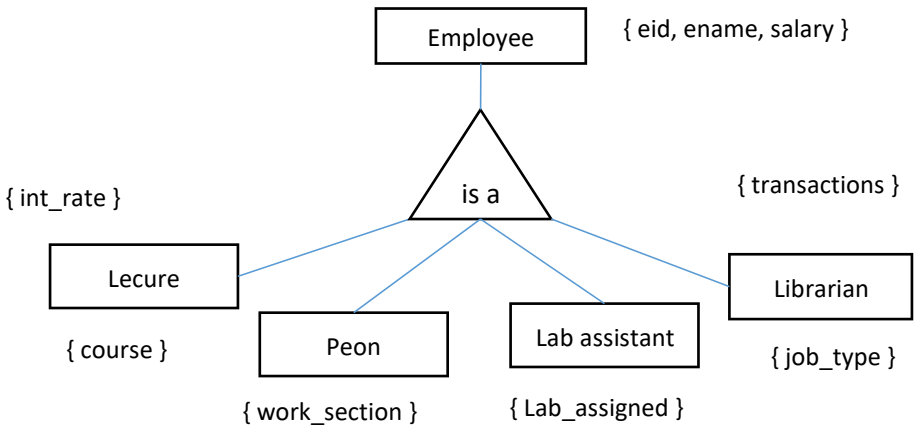


Specialization: In specialization, higher level entity is divided into two or more lower level entities. I.e. Super class is divided to form two or more subclasses.

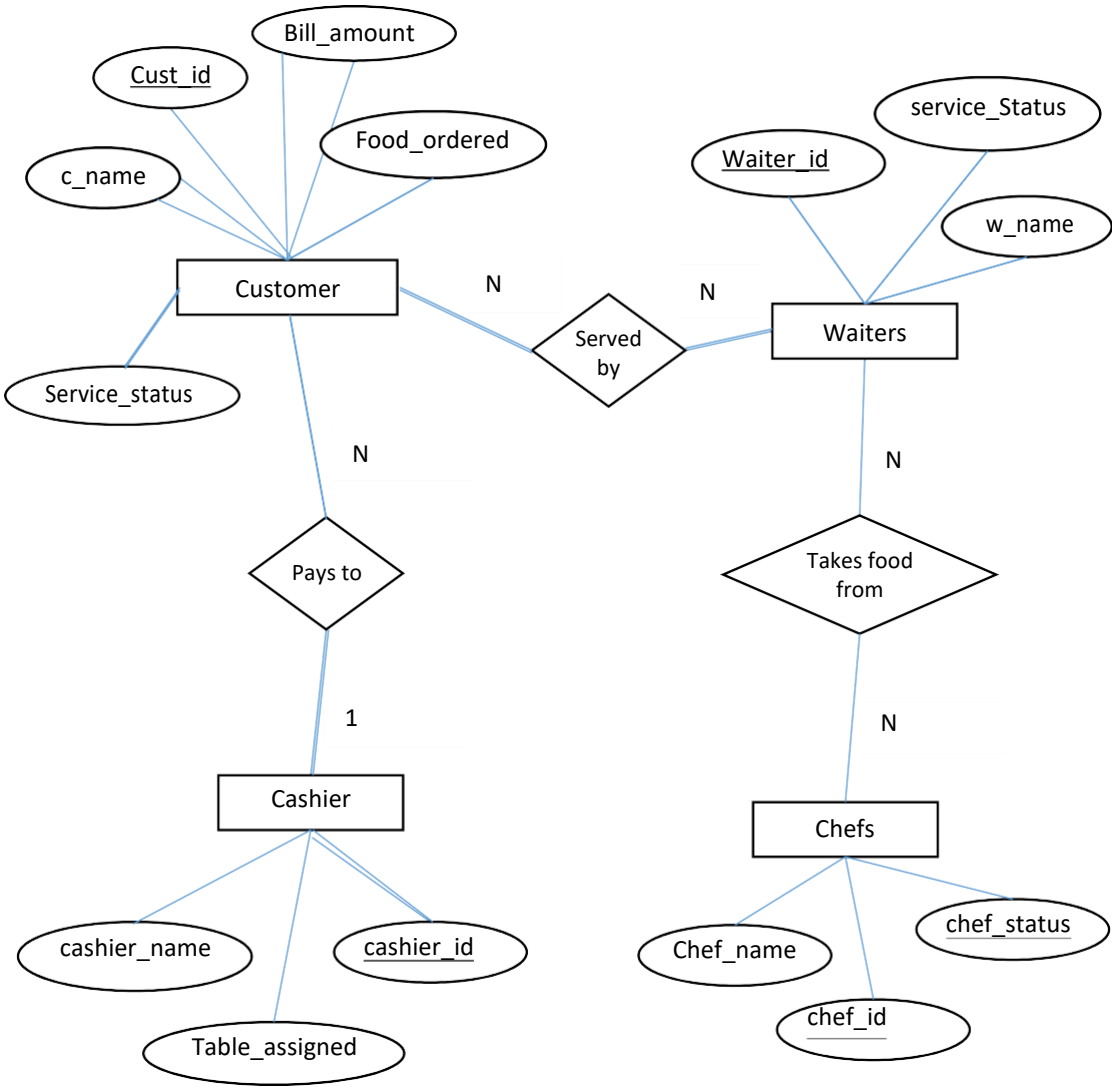
It is a top-down approach.

This division is done on the basis of specialized properties in entity.

For example,



ER diagram of restaurant management system:



Conclusion: In this exp, we studied ER and EER models and made few exemplary diagrams.