Vivekanand Education Society's Institute of Technology
Department of Computer Engineering

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Name of the Course : Database Management System Lab

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Exp No.: 02	Title: Mapping ER/EER to relational schema model and creating a schema diagram.
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Grade:	Course Outcomes:	Signature:

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DBMS - EXPERIMENT 02.

AIM:

Mapping ER/EER to relational schema model and creating a schema diagram.

THEORY:

1] The entity sets and relationship sets can be expressed uniformly as a relation schema representing content of database

2] A database which confirms to an ER diagram can be represented by collection of schema.

3] For each entity set and relationship set there is a unique schema that is assigned name of corresponding entity or relationship set.

4] Each schema has a number of columns to attributes with unique name (primary key)

Eg

Consider schema of Employee & department he works in

ID	Name	Dept. name	Salary
111	Xi	CSE	1 crore
121	Gold	finance	50 lakhs
131	Silver	History	60 lakhs
141	Kim	Music	60 lakhs

Here ID, Name, dept. name, Salary are attributes of relation and each row is called a tuple.

Keys:

Keys are capable of uniquely identifying the tuple values.

Types of Keys:

1) Super Keys:
It is a set of one or more attributes taken collectively to allow us to uniquely identify a tuple in a relation

2) Candidate Key:
It is a super key for which no proper subset is a super key that is its a minimal super Key:

3) Primary Key:
Its a Candidate key, choose as the principal means of identifying tuples within a relation

4) Foreign key:
A relation schema may be an attribute which corresponds to primary key of another relation called foreign key.

To convert ER diagram to Relation schema to the follow:

1) Representing Entity Sets

A strong entity set reduces to a schema with same attributes

eg. Student (ID, name, tot
   - A weak entity set becomes a table of which includes a column for primary key of strong entity set.

eg: Section (course_id, set_id, sem, year)
   Course (course_id, tilte, credits)

2) In case of composite attributes

Composite attributes are flattened out by creating a seperate attribute for each component

eg
   Given entityset instructor with composite attribute name with components attribute first name and last-name

3) In case of multivalued attributes m of a set E is represented by a separate schema EM having primary key of E and an attribute of M.

Relationship sets without Constraints to table

A) A relationship set is represented as a which attributes for primary keys of 2 entity sets.

B) If key constraints are present

i) For a many to many relation create a schema with attributes for primary keys of two particularly sets for and any descriptive attributes

ii) For a many to one relation that are total on many side can be represented by adding an extra attribute to many side with primary key of one side

iii) For one to one relationship either side can be chosen to act as many side and attributes can be added to either of the tables

c) For weak entity sets
The schema corresponding to a relationship set linking a weak entity set to its identifying strong entity sets in redundant.

Conclusion:

From this experiment I have learnt
i) To convert ER diagram to relational model.
ii) The terminological related to the schema diagram

I have successfully completed program to convert
ER model to relational schema.

SCHEMA:

Faculty
- f_id
- f_name
- f_address
- f_phn_no

Belongs
- d_id
- f_id

Teaching
- f_id
- c_id
- s_id

Course
- c_id
- c_name

Handles
- d_id
- c_id

Department
- d_id
- d_name

Teaches
- f_id
- s_id

Subject
- s_id
- s_name

Conducts
- d_id
- e_code

Student
- s_id
- s_name
- s_address
- s_phn_no

Enrolls
- s_id
- c_id

Exams
- e_code
- room
- time
- date

Borrows
- s_id
- b_id

Books
- b_id
- b_name
- date_of_issue