Database Management System

By,

Harshil T. Kanakia

Outline of Lecture 7

ER diagram to Relational
database Mapping

ER to relational database mapping steps

O Mapping of Strong entity set

O Mapping of Weak entity set

O Mapping of 1:1 relationship type

O Mapping of 1:N relationship type

O Mapping of M:N relationship type

O Mapping of multivalued attributes

O Mapping of N-ary relationship type

O Mapping Hierarchical Entities

Mapping of Strong entity set

For each strong entity type E, create a relation R that includes all simple attributes of E. Include only simple components of composite attribute

Mapping of Weak entity set

For each Weak entity set W with owner entity type E, Create a relation R that includes simple attributes and simple components of composite attributes of W. In addition include primary key of E.

Mapping of 1:1 relationship type

O **Merged relation approach**

Merge the two entity types in a single relation.

O **Cross-reference approach**

Two entity types R and S, include primary key of R into S and primary key of S into R.

Mapping of 1:N relationship type

Two entity types R and S, If R is at 1 side and S is at N side then include primary key of R into S.

Mapping of M:N relationship type

For two entity types R and S, create 3 relations. 1 for R, 1 for S, and 1 for T which includes primary key of R and S.

Mapping of multivalued attributes

For each multivalued attribute, create a new relation R which includes multivallued attribute and primary key of that relation that consist of multivalued attribute.

Mapping of N-ary relationship type

For each N-ary relationship type R where n>2, create a new realtion S to represent R. Include foreign key attributes in S the primary keys of the relations that representing the participating entity types.

Mapping Hierarchical Entities

O Create tables for all higher-level entities.

O Create tables for lower-level entities.

O Add primary keys of higher-level entities in the table of lower-level entities.

O In lower-level tables, add all other attributes of lower-level entities.

O Declare primary key of higher-level table and the primary key for lower-level table.

O Declare foreign key constraints.

Any Questions ??

End of Lecture 7