ERD Mapping to Tables

ITI 2021

ER-to-Relational Mapping

Step 1: Mapping of Regular Entity Types

Step 2: Mapping of Weak Entity Types

Step 3: Mapping of Binary 1:1 Relation Types

Step 4: Mapping of Binary 1:N Relationship Types.

Step 5: Mapping of Binary M:N Relationship Types.

Step 6: Mapping of Multi-valued attributes.

Step 7: Mapping of N-ary Relationship Types.

Step 1: Mapping of Regular Entity Types

- Create table for each entity type

- Choose one of key attributes to be the primary key

Step 2: Mapping of Weak Entity Types

- Create table for each weak entity.

- Add foreign key that correspond to the owner entity type.

- Choose the primary key : (FK + weak entity Partial PK if any)

Step 3: Mapping of Binary 1:1 Relation Types

- Merged two tables if both sides are Mandatory.

- Add FK into table with the total participation relationship to represent optional side.

- Create third table if both sides are optional.

Step 4: Mapping of Binary 1:N Relationship Types.

- Add FK to N-side table

- Add any simple attributes of relationship as column to N-side table.

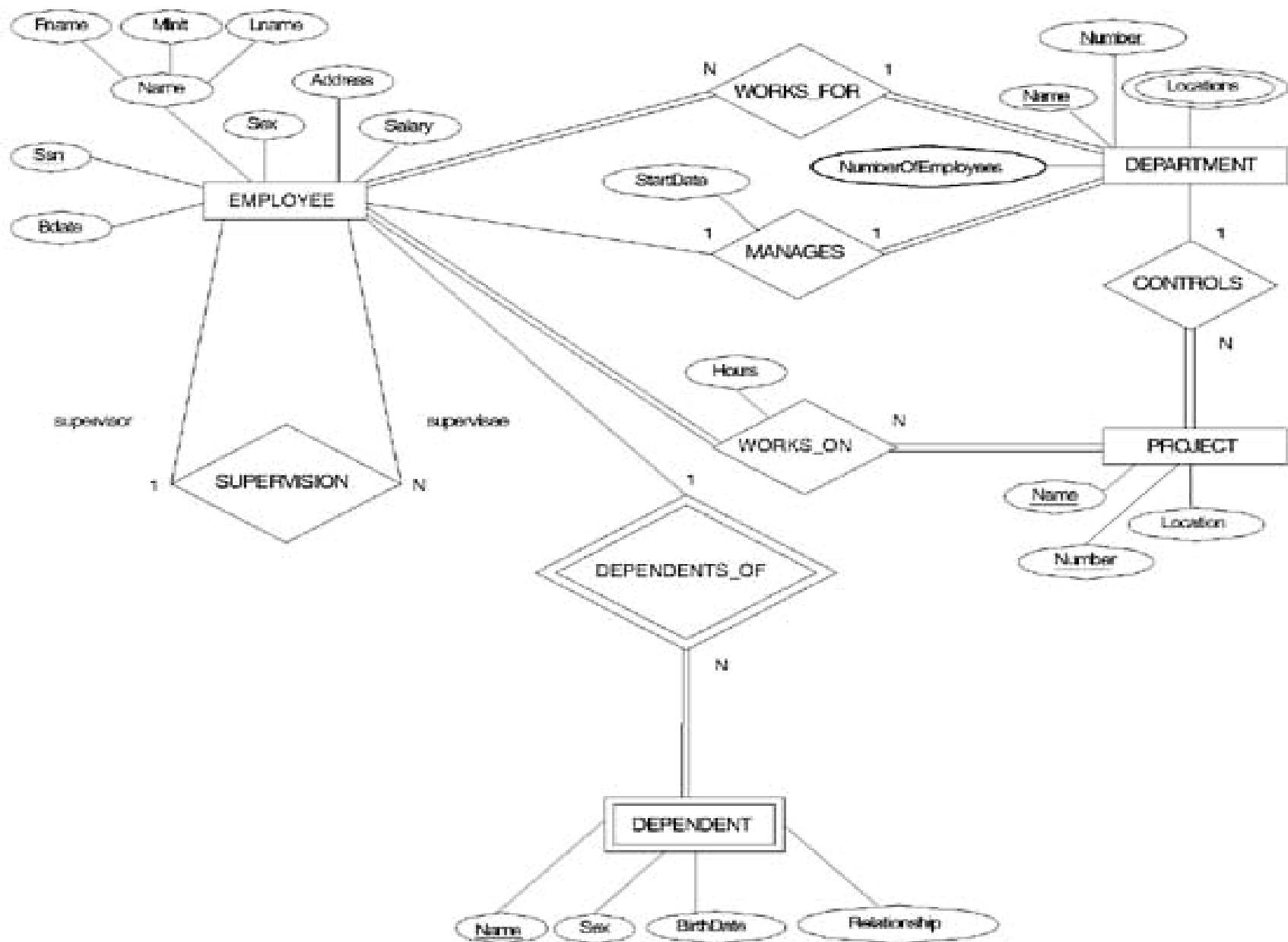# Step 5: Mapping of Binary M:N Relationship Types.

- Create a new third table

- Add FKs to the new table for both parent tables

- Add simple attributes of relationship to the new table if any .

Step 6: Mapping of Multi-valued attributes.

- Create new table for each multi-valued attribute

- Table will include two columns.
  one for multi-valued attribute + FK column.

Step 7: Mapping of N-ary Relationship Types.

- If n > 2 then :

- Create a new third table

- Add FKs to the new table for all parent tables

- Add simple attributes of relationship to the new table if any .

Mapping Result