

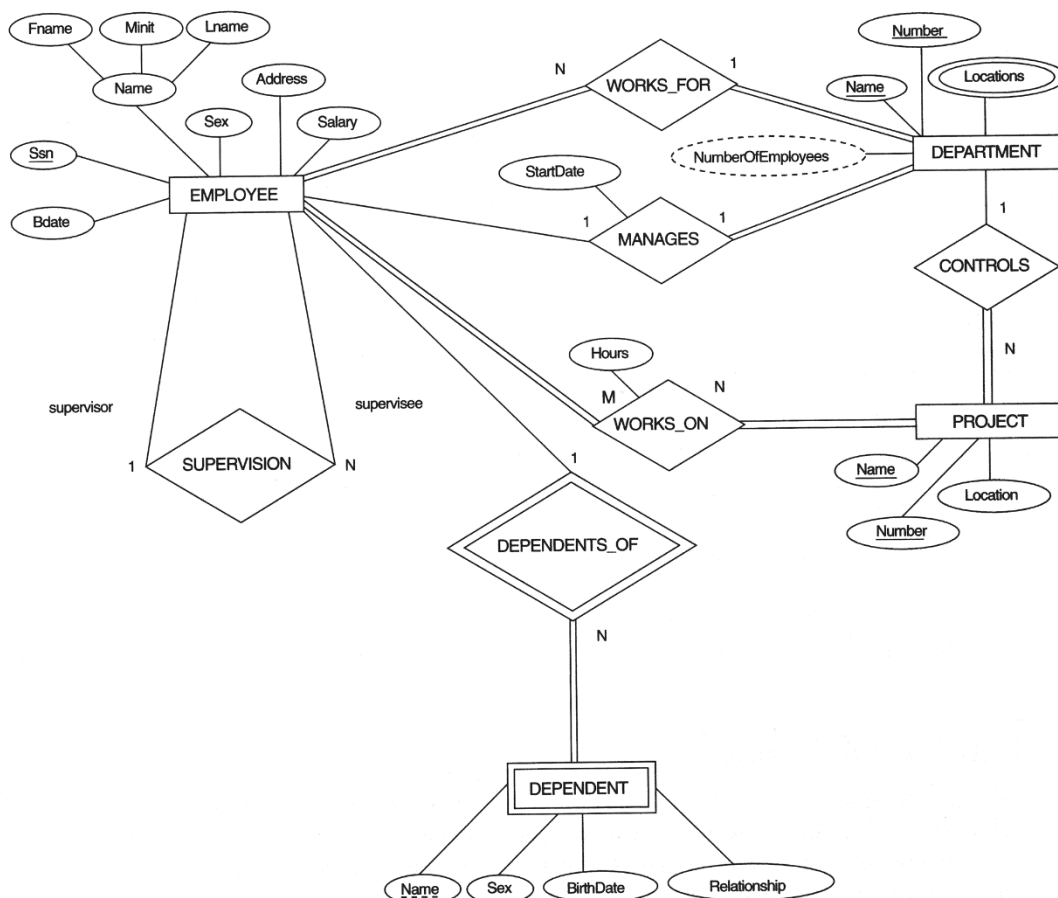
■ ER-to-Relational Mapping Algorithm

Transform the conceptual database design (ERD) into a logical database design that can be implemented on a chosen DBMS later (our choice: RDS)

- Input: conceptual model (ERD)
- Output: relational model (schema), normalized relations

The main steps are:

- 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 Multivalued attributes.
- Step 7: Mapping of N-ary Relationship Types.



■ Step 1: Mapping of Regular Entity Types

EMPLOYEE

Fname	Minit	Lname	<u>Ssn</u>	Bdate	Address	Sex	Salary
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DEPARTMENT

Dname	<u>Dnumber</u>
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PROJECT

Pname	<u>Pnumber</u>	Plocation
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Resulting Relational Schema

EMPLOYEE

Fname	Minit	Lname	<u>Ssn</u>	Bdate	Address	Sex	Salary	Super_ssn	Dno
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DEPARTMENT

Dname	<u>Dnumber</u>	Mgr_ssn	Mgr_start_date
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DEPT_LOCATIONS

<u>Dnumber</u>	<u>Dlocation</u>
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PROJECT

Pname	<u>Pnumber</u>	Plocation	Dnum
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WORKS_ON

<u>Essn</u>	<u>Pno</u>	Hours
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DEPENDENT

<u>Essn</u>	<u>Dependent_name</u>	Sex	Bdate	Relationship
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