ER-to-Relational Mapping

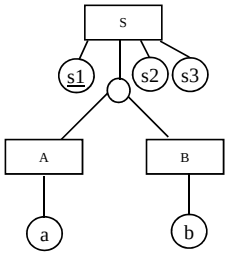
- Mapping from ER to Relational
  - Map each entity to a table
  - Map each attribute to a column
  - Map relationships
    - Map many-to-many relationships to a table
    - Use key propagation for one-to-one and one-to-many relationships
    - If relationship has attributes then map it a table

ER-to-Relational Mapping (Cont.)

- Mapping keys
- For strong entities use the key as the key for the corresponding table
- For weak entities use the combination of the entity's key and the key from the strong entity
- Use the keys from the two entity types as the key for the relationship (table)

EER Mapping

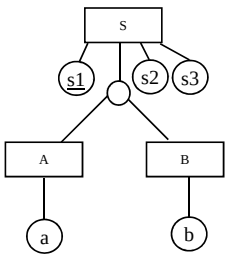
- Mapping high degree relationship type
- Mapping generalization and specialization



- First alternative:
  - Create one table for S(s1, s2, s3)
  - Create one table for A(s1, a)
  - Create one table for B(s1, b)
- Second alternative:
  - Create one table for A(s1, s2, s3,a)
  - Create one table for B(s1, s2,s3,b)

EER Modeling

- Mapping *disjoint* and *overlapping* generalization and specialization



- Third alternative: Create one table
  - If Disjoint:

C(s1, s2,s3, a, b)

Note: s3 is the qualifying attribute

  - If Overlapping:

C(S1, s2, s3, aflag, a, bflag, b)

When aflag true then take value of a

When bflag true then take value of b

EER Modeling

- For total participation
  - At least one of the flag must be true
  - Why?
- For non-total participation
  - For non-total participation one or both flags may be false
  - Why?
- The last approach would work for both disjoint and overlapping generalization and specialization
- That is an over-kill for disjoint since the qualifying attribute plays the same role

EER Mapping

- Mapping of Shared Subclass
  - 9.2.2 (pp297)
- Mapping of Categories
  - 9.2.3 (pp297-298)