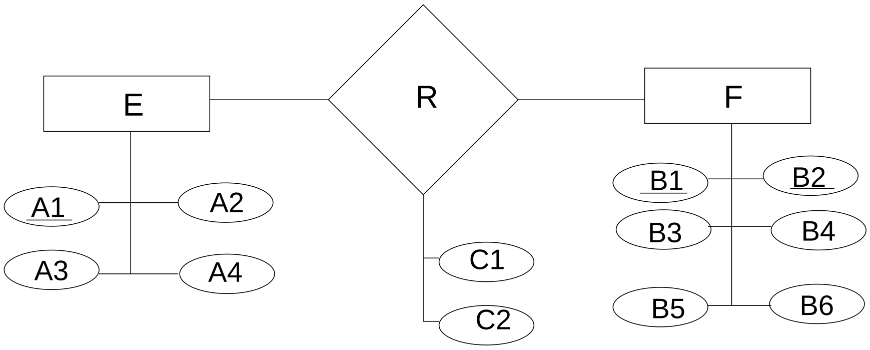
From E-R Models to Relational Databases
Examples

Converting Relationship Sets

Many-to-Many Relationship Sets



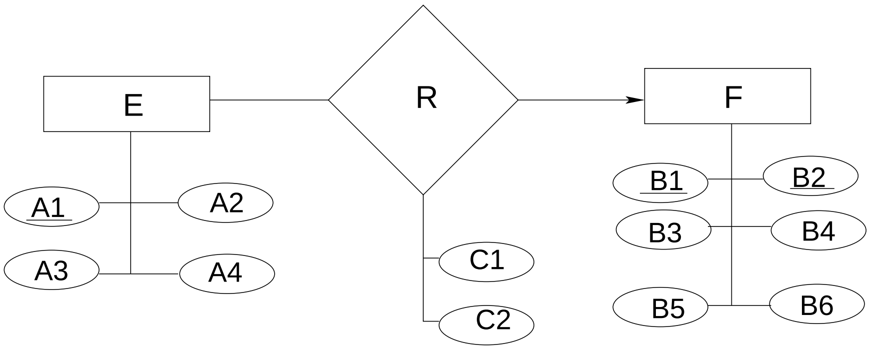
Relational Schema:

E(A1, A2, A3, A4)
F(B1, B2, B3, B4, B5, B6)
R(EA1,FB1, FB2, C1, C2

Notes:

- C1 and C2 can participate in the primary key of F (either jointly, or separately).
- R.EA1 is a foreign key referencing E.
- R.FB1,R.FB2 is a foreign key referencing F.

Many-to-One Relationship Sets



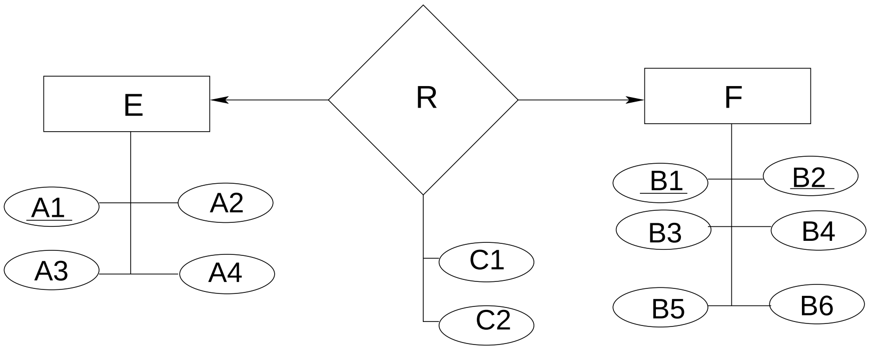
Relational Schema:

E(A1, A2, A3, A4, FB1, FB2, C1, C2)
F(B1, B2, B3, B4, B5, B6)

Notes:

- E.FB1,E.FB2 is a foreign key referencing F.

One-to-One Relationship Sets



Relational Schema 1:

E(A1, A2, A3, A4, FB1, FB2, C1, C2)
F(B1, B2, B3, B4, B5, B6)

Notes:

- E.FB1,E.FB2 is a foreign key referencing F.

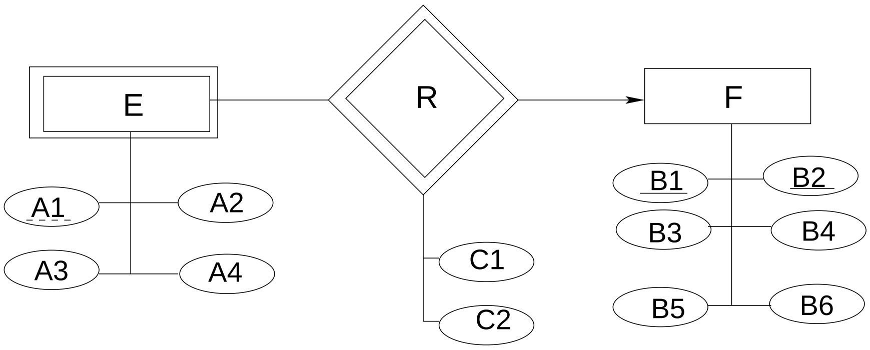
Relational Schema 2:

E(A1, A2, A3, A4)
F(B1, B2, B3, B4, B5, B6, C1, C1, EA1)

Notes:

- F.EA1 is a foreign key referencing E.

Weak Entity Sets



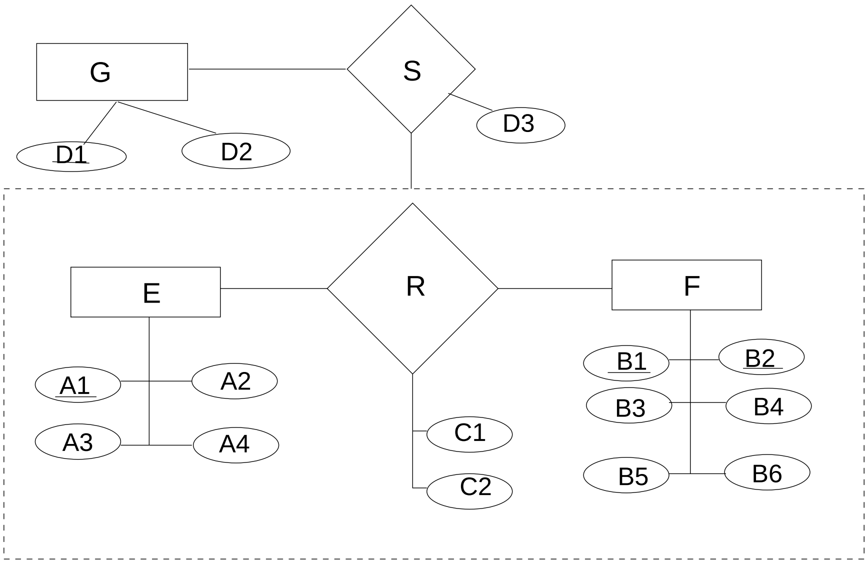
Relational Schema:

E(A1, A2, A3, A4, FB1, FB2, C1, C2)
F(B1, B2, B3, B4, B5, B6)

Notes:

- E.FB1,E.FB2 is a foreign key referencing F.

Aggregation



Relational Schema:

E(A1, A2, A3, A4)
F(B1, B2, B3, B4, B5, B6)
R(EA1,FB1, FB2, C1, C2
G(D1, D2)
S(GD1, D3, REA1, RFB1, RFB2)

Notes:

- C1 and C2 can participate in the primary key of F (either jointly, or separately). If this is the case, they must be included in the attribute list for S.
- R.EA1 is a foreign key referencing E.
- R.FB1,R.FB2 is a foreign key referencing F.
- S.GD1 is a foreign key referencing G.
- S.REA1, S.RFB1, S.RFB2 is a foreign key referencing R. S.REA1 is a foreign key referencing E. S.RFB1, S.RFB2 is a foreign key referencing F.