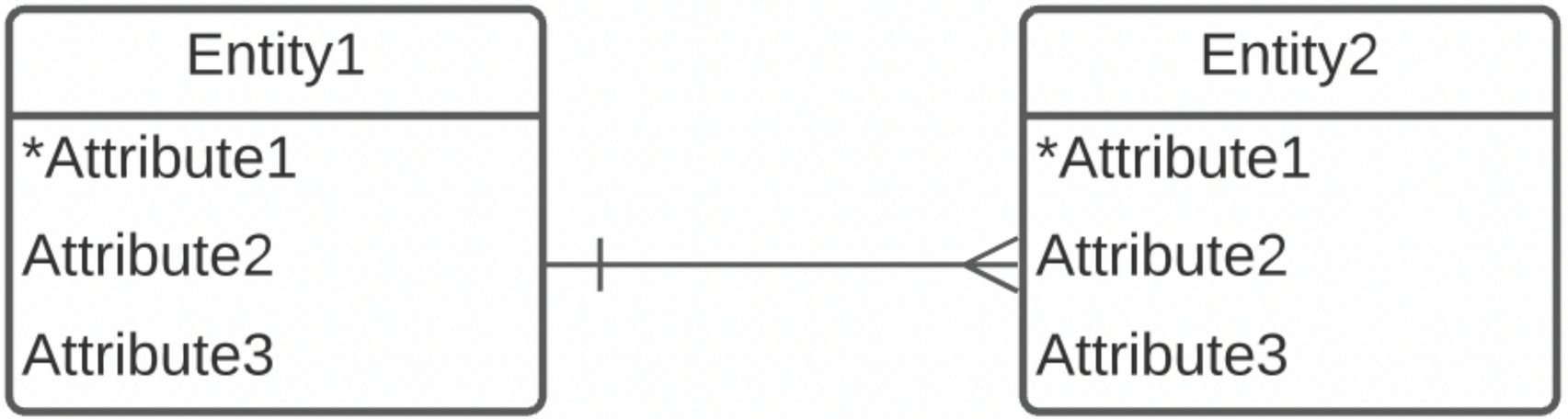
Converting ERADs to RMs

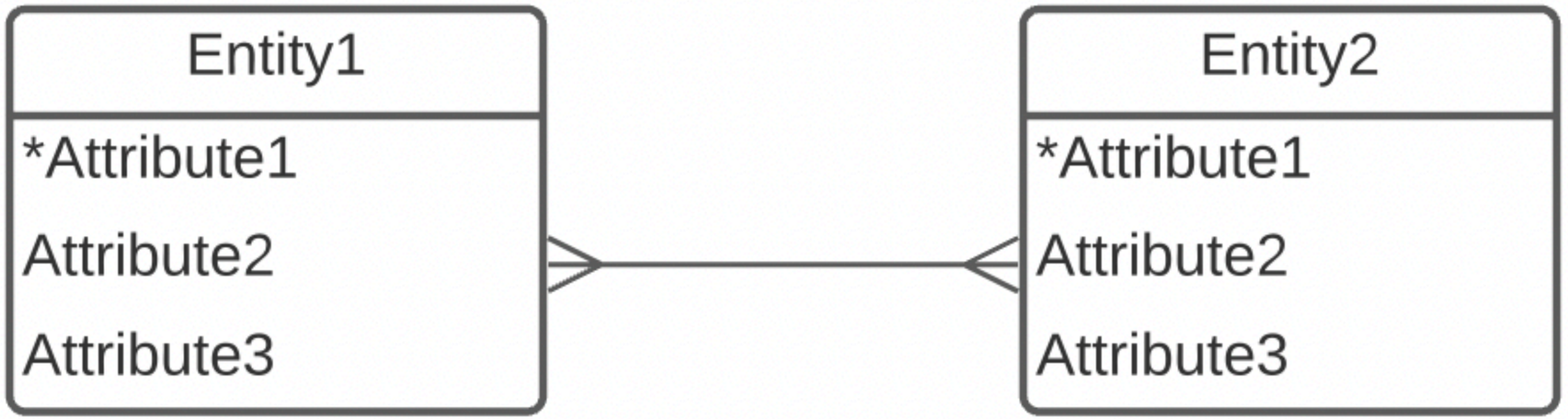
- Now we need to convert ERADs to Relational Models.
- For a majority of ER Models, entities and weak entities convert easily into relations.
- General steps:
  - Each entity will be converted directly to a relation.
  - The attributes of the entity become the attributes of the relation.
  - The Identifier of the Entity becomes a Key of the relation.
  - Relationships will be mapped as foreign keys.
    - Participation will be ignored at this step, only cardinality matters.

Binary, One to Many



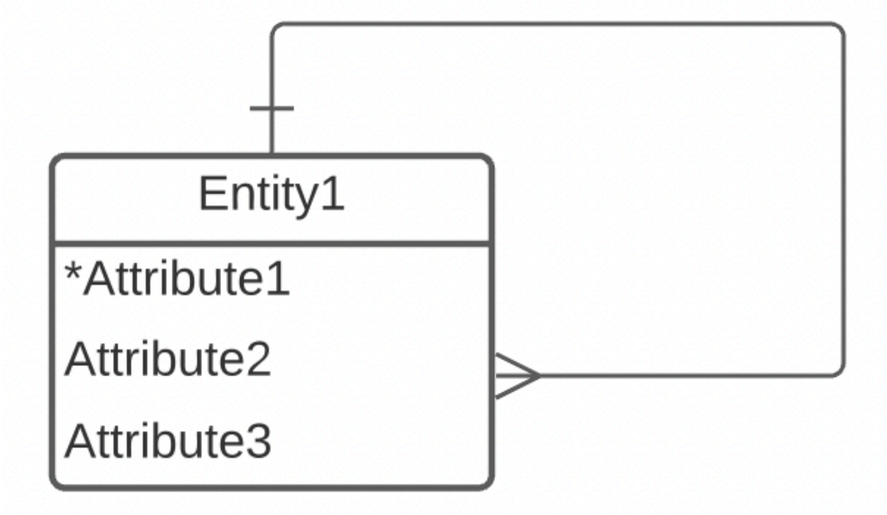
- Entity1(Attribute1, Attribute2, Attribute3)
- Entity2(Attribute1, Attribute2, Attribute3, Attribute1B(fk))

Binary, Many to Many



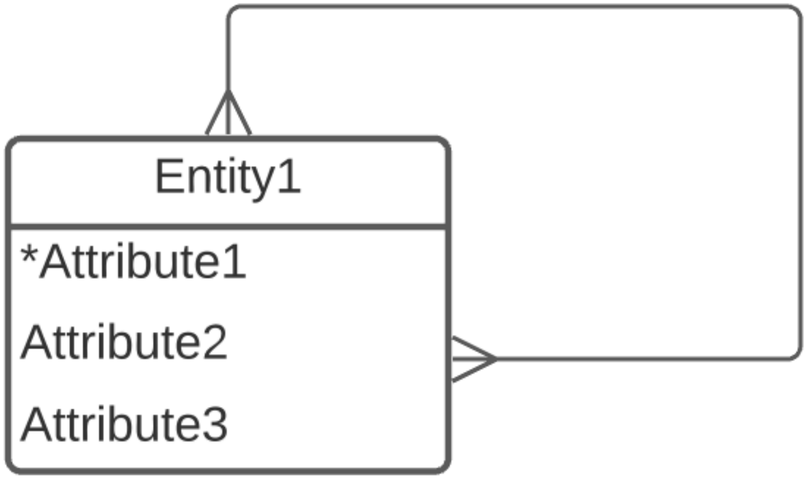
- Entity1(Attribute1, Attribute2, Attribute3)
- Entity2(Attribute1, Attribute2, Attribute3)
- Entity1_2(Attribute1A(fk), Attribute1B(fk))

Unary, One to Many



- Entity1(Attribute1, Attribute2, Attribute3, Attribute1B(fk))

Unary, Many to Many



- Entity1(Attribute1, Attribute2, Attribute3)
- Entity1_1(Attribute1A(fk), Attribute1B(fk))

One to One

- Merge:
  - We can merge two entities as one, and find a primary key for the new entity.
- Not Merge:
  - One to One can be treated as a special case of One to Many.
  - If both sides are mandatory, we can choose either side as one, and choose the other side as many.
  - If only one side is mandatory, we choose this side as one, and the other as many.
  - If both sides are optional, we have to rethink about the primary key.

More Than Binary

- If the relationship has more than 2 entities evolved, then we need to find a way to separate them to some binary/unary relationships.
- We cannot handle these relationships.