

CONSTRAINTS IN E-R MODEL

There are 2 Constraints in E-R Model

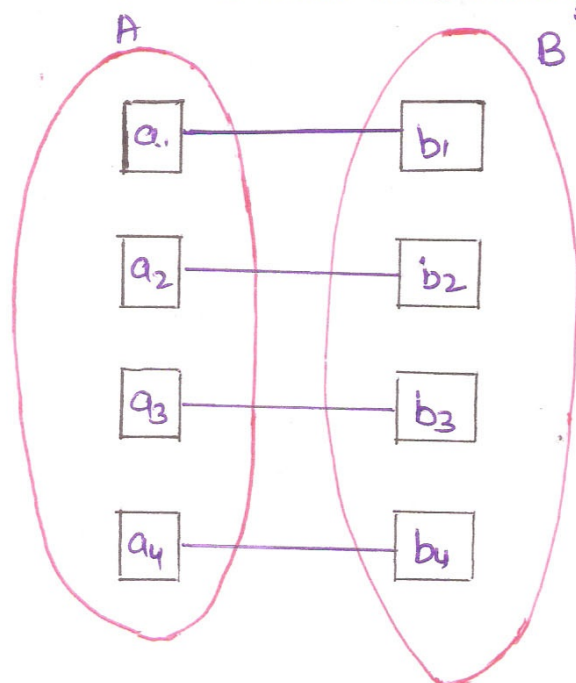
- Mapping Cardinalities
- Participation Constraints.

Mapping Cardinalities :- Or Cardinality ratios, It tells the No. of entities to which another entity can be associated through a 'Relationship' set.

Mapping Cardinality is used Binary Relationship sets.

So for a Binary Relationship Set R between entity set A and B, there will be one of this Mapping Cardinality :-

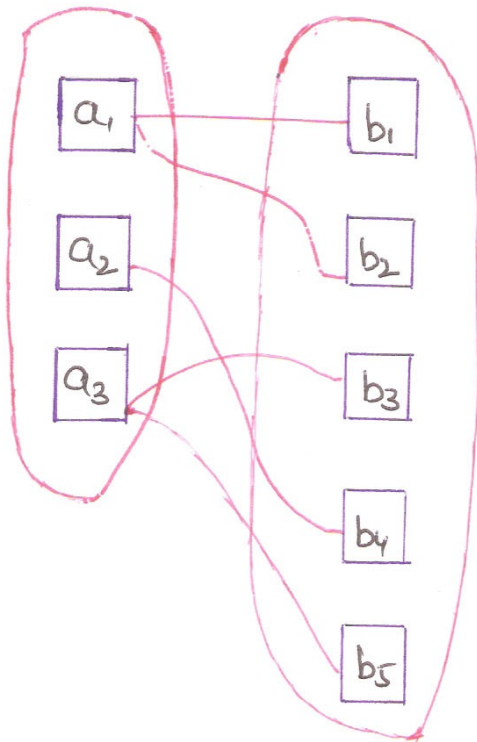
- One to One :- An entity in A is associated with "at most" one entity in B and an entity in B is associated with at most one entity in A



Automobile $\xrightarrow{\text{has}}$ Engine
Department $\xrightarrow{\text{Headed by}}$ Head of dept

→
Real world
Example

- One to many :- An entity in A is associated with any number (Zero or More) of entities in B. An entity in B, however, can be associated with at most one entity in A

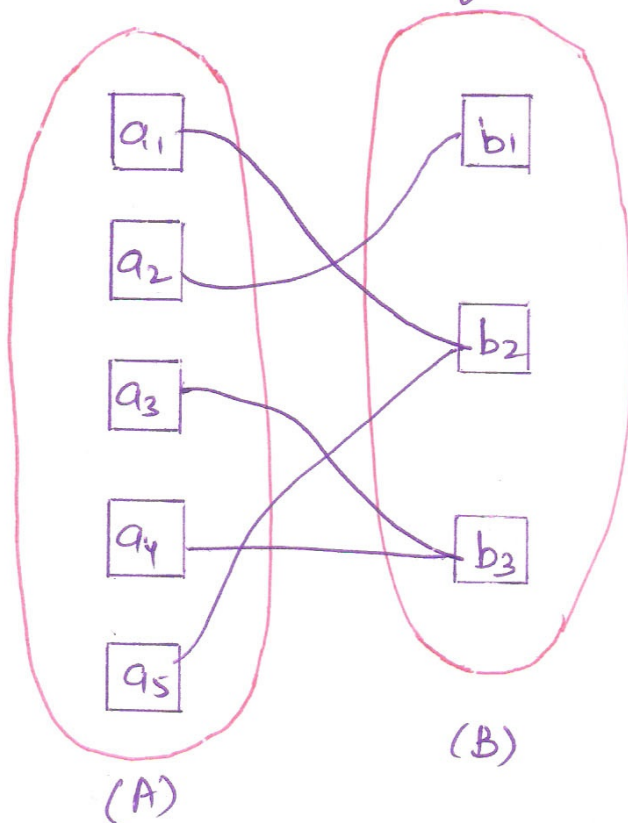


Father $\xrightarrow[\text{Many}]{\text{has}}$ children

Teacher $\xrightarrow[\text{Many}]{\text{teaches}}$ Courses

One to many

- Many to One : An entity in A is associated with at most one entity in B. An entity in B, however can be associated with any number (Zero or More) of entities in A.

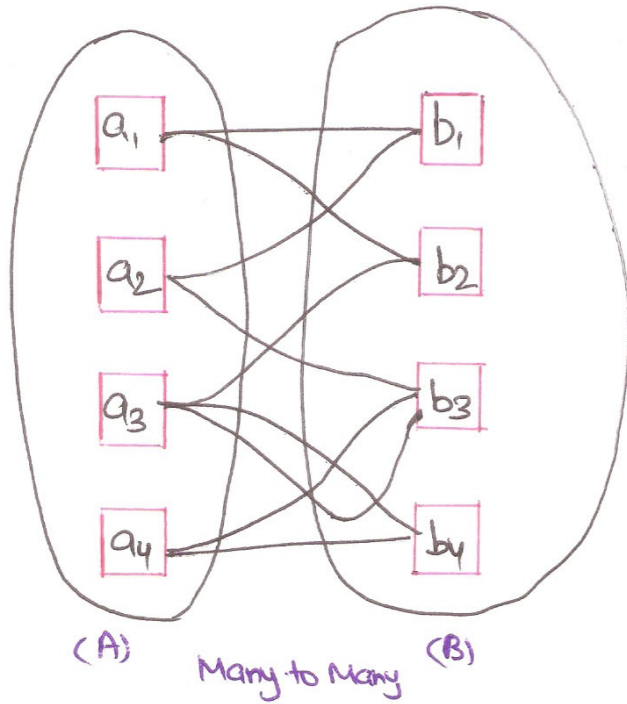


** Students $\xrightarrow[\text{for a single}]{\text{Many option}}$ College

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- Many to Many → An entity in A is associated with any number (Zero or more) of entities in B, and an entity in B is associated with any number (Zero or more) of entities in A.



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- 2) Participation Constraints → The participation of an Entity set E in a Relationship set R is said to be 'total' if every entity in E participates in at least one relationship in R:

→ if only some entities in E participate in Relationships in R, then the of entity set E in relationship R is said to be partial.

