

Course Name: A Level (1st Sem)

Topic: ERD – Participation Constraints (Part 7)

Subject : Introduction to DBMS

Date: 09-Apr-2020

ERD – Participation Constraints

Participation Constraints

The participation constraint specifies the number of instances of an entity can participate in a relationship set.

Types of Participation Constraints

1. Total Participation

2. Partial Participation

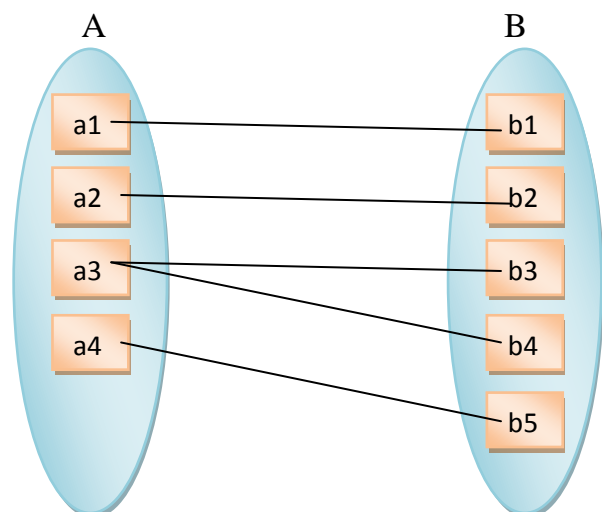
Total Participation

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.

The participation of entity set A in the relationship set is **total** because every entity of A participates in the relationship set.

and

The participation of entity set B in the relationship set is also **total** because every entity of B also participates in the relationship set.



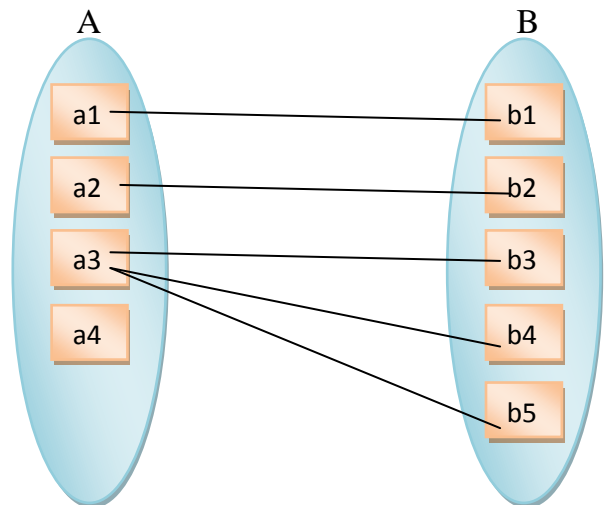
Partial Participation

The participation of an entity set E in relationship set R is said to be **partial** if only some entities in E participate in relationships in R.

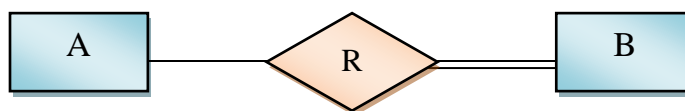
The participation of entity set A in the relationship set is **partial** because only some entities of A participate in the relationship set.

while

The participation of entity set B in the relationship set is **total** because every entity of B participates in the relationship set.



In ERD, the total participation is denoted by **doubled-line** between entity set and relationship set and partial participation is denoted by **single line** between entity set and relationship set.



Participation in R: **Partial A**
Total B

Example:

Important!

Suppose an entity set **Student** related to an entity set **Course** through **Enrolled** relationship set.

The participation of entity set *course* in *enrolled* relationship set is **partial** because a *course* may or may not have *students* enrolled in. It is possible that only some of the *course* entities are related to the *student* entity set through the *enrolled* relationship set.

The participation of entity set *student* in *enrolled* relationship set is **total** because every *student* is expect to relate at least one *course* through the *enrolled* relationship set



Participation in Enrolled relationship set: **Partial** Course
Total Student

Exercise:

1. Explain participation constraints using two real life examples and also represent it pictorially.

