Course Name: **A Level (1st Sem)**   Subject : **Introduction to DBMS**

Topic: **ERD – Relationship & Its Types Contd. (Part 3)**   Date: **01-Apr-2020**

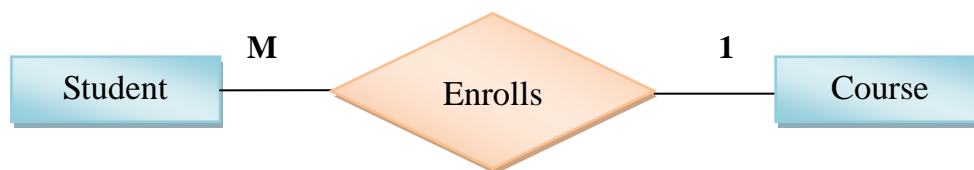
Relationship Types Contd.
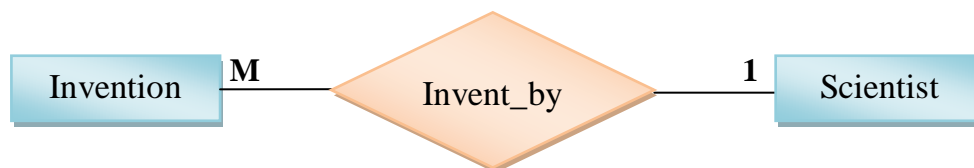
- **Many to One Relationship**

When more than one instance of an entity is associated with single instance of another entity then it is called Many to One Relationship.

Note: Many to One relationship can also be viewed as One to Many relationships depending on which way we look at it.

Example1: A Student enrols for only one Course but a Course can have many Students.

Example2: A Scientist can invent many Inventions but an Invention is associated with single Scientist.
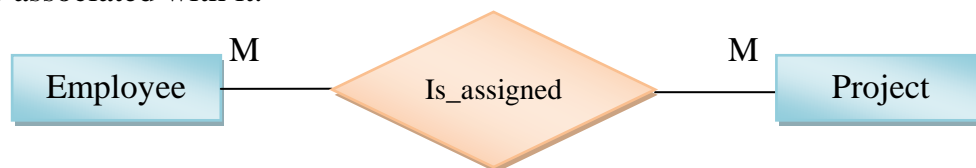

- **Many to Many Relationship**

When more than one instance of an entity is associated with more than one instance of another entity then it is called Many to Many Relationship.
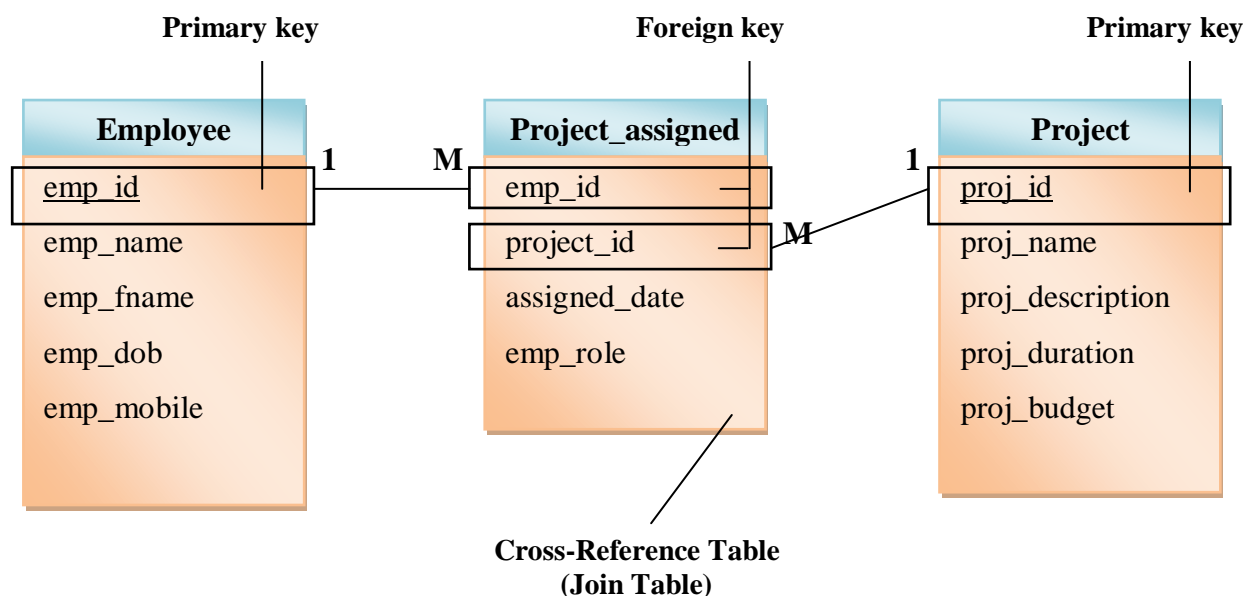
Example1: A Student is associated with many Teachers and a Teacher is associated with many Students.

Student	M ——— associated ——— M	Teacher

Example2: An Employee can be assigned many Projects and a Project can have many Employee associated with it.

Employee	M ——— Is_assigned ——— M	Project

Important Point: A "Many to Many" relationship could be thought of as two "One to Many" relationship linked together. Two "One to Many" tables linked together through intermediary table (also called Cross-reference table). This table links the other two tables together.

Primary key   Foreign key   Primary key

Employee   **Project_assigned**   **Project**

Employee		Project_assigned		Project
emp_id	1 ——— M	emp_id		proj_id
emp_name		project_id	M	proj_name
emp_fname		assigned_date		proj_description
emp_dob		emp_role		proj_duration
emp_mobile				proj_budget

**Cross-Reference Table
(Join Table)**

Exercises:

1. Draw ER diagram for representing Many to One Relationship.

2. Draw ER diagram for representing Many to Many Relationship.

   (Note: You must use different examples other than above.)