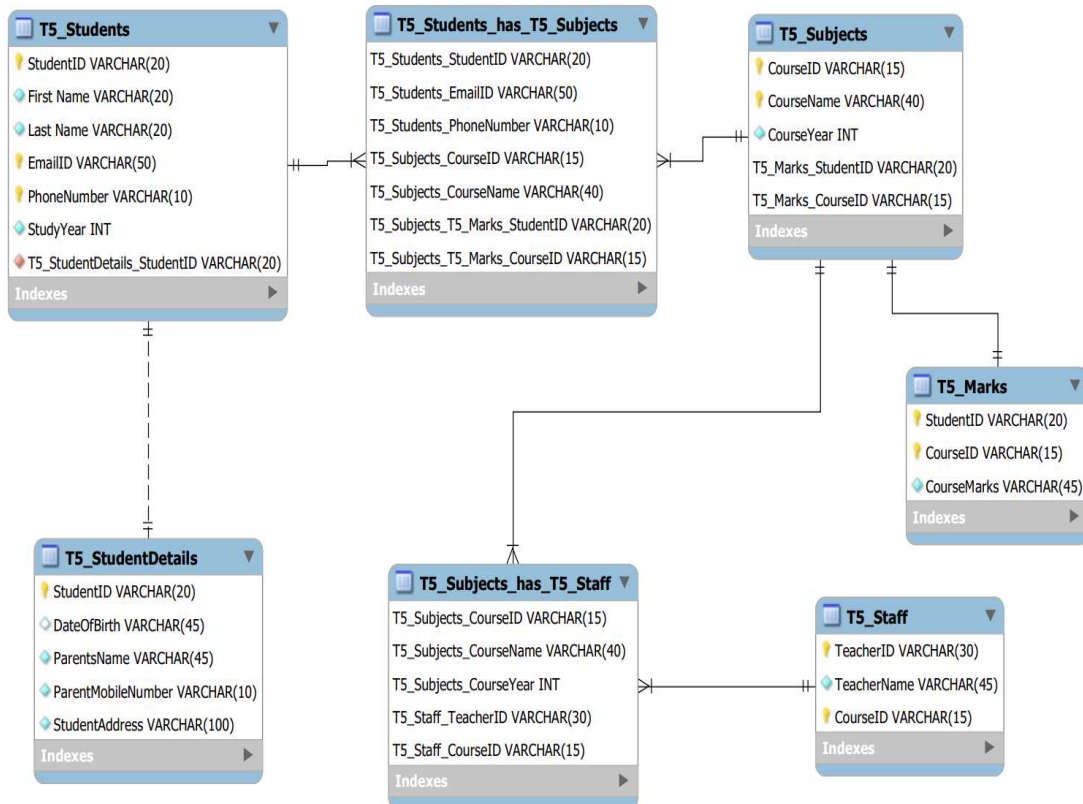# CS210 DBMS LAB ASSIGNMENT-1

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Weak Entity

The weak entity in DBMS do not have a primary key and are dependent on the parent entity. It mainly depends on other entities.

Strong Entity

The strong entity has a primary key. Weak entities are dependent on strong entity. Its existence is not dependent on any other entity.

From the above ER diagram **Weak entity is T5-Marks**, Because it doesn't contain any primary key. It depends on other tables.

Strong entities are T5_Students, T5_Staff it doesn't depend on any other entities.

A **weak or *non-identifying* relationship** exists between two entities when the primary key of one of the related entities does not contain a primary key component of the other related entities. Like **T5_Students and T5_StudentDetails**

A **strong or *identifying* relationship** is when the primary key of the related entity contains the primary key of the "parent". Like **T5_Subjects** and **T5_Marks ; T5_Subjects** and **T5_Staff.**

- **T5_Students** and **T5_StudentDetails ;** and **T5_Subjects** and **T5_Marks** have **one to one relation ship.**

- **T5_Students** and **T5_Subjects; T5_Subjects** and **T5_Staff** has **many to many relationship.**

Table keys with symols :

PK: Primary key
NN: Not Null key
UQ: unique key

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
StudentID	VARCHAR(20)	☑	☑	☑	☐	☐	☐	☐	☐	
First Name	VARCHAR(20)	☐	☑	☐	☐	☐	☐	☐	☐	
Last Name	VARCHAR(20)	☐	☑	☐	☐	☐	☐	☐	☐	
EmailID	VARCHAR(50)	☑	☑	☑	☐	☐	☐	☐	☐	

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
PhoneNumber	VARCHAR(10)	☑	☑	☑	☐	☐	☐	☐	☐	
StudyYear	INT	☐	☑	☐	☐	☐	☐	☐	☐	
T5_Marks_StudentID	VARCHAR(20)	☐	☑	☐	☐	☐	☐	☐	☐	
T5_Marks_CourseID	VARCHAR(15)	☐	☑	☐	☐	☐	☐	☐	☐	

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
T5_Marks_CourseID	VARCHAR(15)	☐	☑	☐	☐	☐	☐	☐	☐	
T5_StudentDetails_StudentID	VARCHAR(20)	☐	☑	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
CourseID	VARCHAR(15)	☑	☑	☑	☐	☐	☐	☐	☐	
CourseName	VARCHAR(40)	☑	☑	☐	☐	☐	☐	☐	☐	
CourseYear	INT	☐	☑	☐	☐	☐	☐	☐	☐	
T5_Students_StudentID	VARCHAR(20)	☐	☑	☐	☐	☐	☐	☐	☐	

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
T5_Students_StudentID	VARCHAR(20)	☐	☑	☐	☐	☐	☐	☐	☐	
T5_Students_EmailID	VARCHAR(50)	☐	☑	☐	☐	☐	☐	☐	☐	
T5_Students_PhoneNumber	VARCHAR(10)	☐	☑	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
TeacherID	VARCHAR(30)	☑	☑	☑	☐	☐	☐	☐	☐	
TeacherName	VARCHAR(45)	☐	☑	☐	☐	☐	☐	☐	☐	
CourseID	VARCHAR(15)	☑	☑	☑	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
StudentID	VARCHAR(20)	☑	☑	☑	☐	☐	☐	☐	☐	
CourseID	VARCHAR(15)	☑	☑	☑	☐	☐	☐	☐	☐	
CourseMarks	VARCHAR(45)	☐	☑	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
StudentID	VARCHAR(20)	☑	☑	☑	☐	☐	☐	☐	☐	
DateOfBirth	VARCHAR(45)	☐	☑	☐	☐	☐	☐	☐	☐	
ParentsName	VARCHAR(45)	☐	☑	☐	☐	☐	☐	☐	☐	
ParentMobileNumber	VARCHAR(10)	☐	☑	☑	☐	☐	☐	☐	☐	

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
ParentMobileNumber	VARCHAR(10)	☐	☑	☑	☐	☐	☐	☐	☐	
StudentAddress	VARCHAR(100)	☐	☑	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
T5_Subjects_CourseID	VARCHAR(15)	☑	☑	☐	☐	☐	☐	☐	☐	
T5_Subjects_CourseName	VARCHAR(40)	☑	☑	☐	☐	☐	☐	☐	☐	
T5_Subjects_CourseYear	INT	☑	☑	☐	☐	☐	☐	☐	☐	
T5_Staff_TeacherID	VARCHAR(30)	☑	☑	☐	☐	☐	☐	☐	☐	

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
T5_Staff_TeacherID	VARCHAR(30)	☑	☑	☐	☐	☐	☐	☐	☐	
T5_Staff_CourseID	VARCHAR(15)	☑	☑	☐	☐	☐	☐	☐	☐	