

DataBaseSystem report

Lecture 8

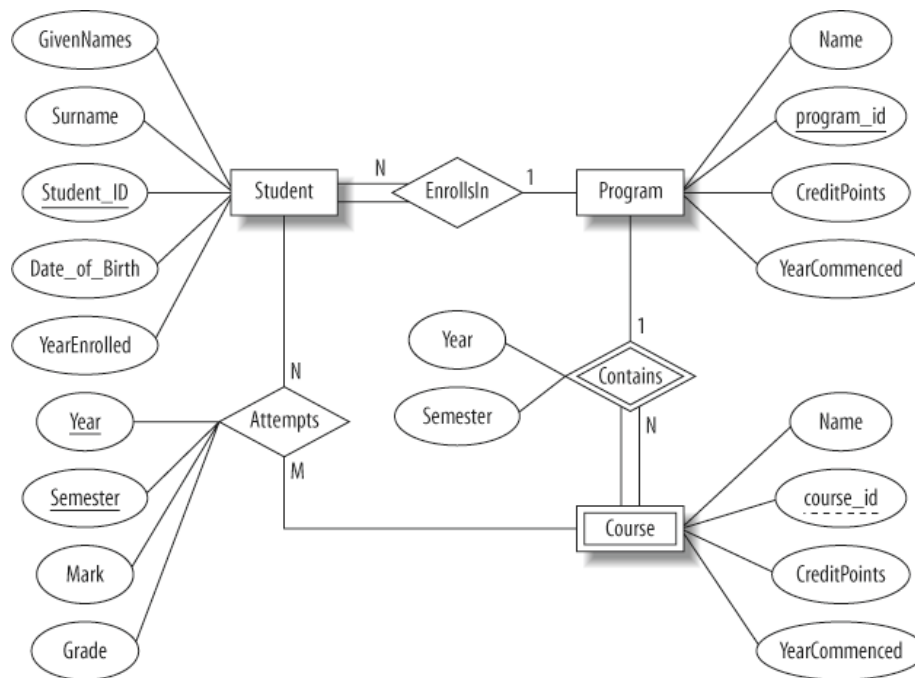


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Given E-R Diagram below, do the followings:



- Explain each entity and its primary key attribute

Student is a strong entity, with an Student_ID, created to be the primary key used to distinguish between students.

Program is a strong entity, with an program_id, created to be the primary key used to distinguish between programs.

Course is a weak entity, with an course_id, created to be the partial key. Partial key is a property of a weak entity type that cannot exist as an independent key but uniquely identifies an individual entity of the weak entity type in combination with the key of the parent entity type.

- Explain each relationship cardinality of the E-R Diagram

One program can have many students, and a student can be enrolled in only one program.

One program can contain many Courses but a Course can be contained in only one program.

One Student can attempt many Courses and a Course can have many Students.

- Explain each relationship participation of the E-R Diagram

Program may have or may not have students. However, all students must be enrolled in the program.

Program may contain or may not contain Courses. However, all Courses must be contained in the Program.

Students may attempt or may not attempt Courses and Courses may have Students or may not have Students.