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DS7330- Mini project 1
1/24/21

Step 1 : Identify the Entities

Instructor table
Student table
Department table
Courses table
Department Head table

Step 2 : Identify the relationships

Departments can offer many courses; however any given course can only be offered by one department. No dual department courses here. I believe this relationship is one-to-many. The departments also have many instructors, with this said the restriction is that each instructor only works for one department. This relationship is one-to-many.

In terms of courses; a single course can be taken by many students, additionally a single student can enroll in many courses. So the relationship between courses and students is a many-to-many relationship. With respect to courses and instructors, a single course may only be taught by one instructor, and an instructor can teach many courses. This relationship can be described as many-to-one.

We also have department heads, we have many departments, but only one head per-department, so we have a many-to-one with respect to department and heads. One department only has one department head, but there are many departments.

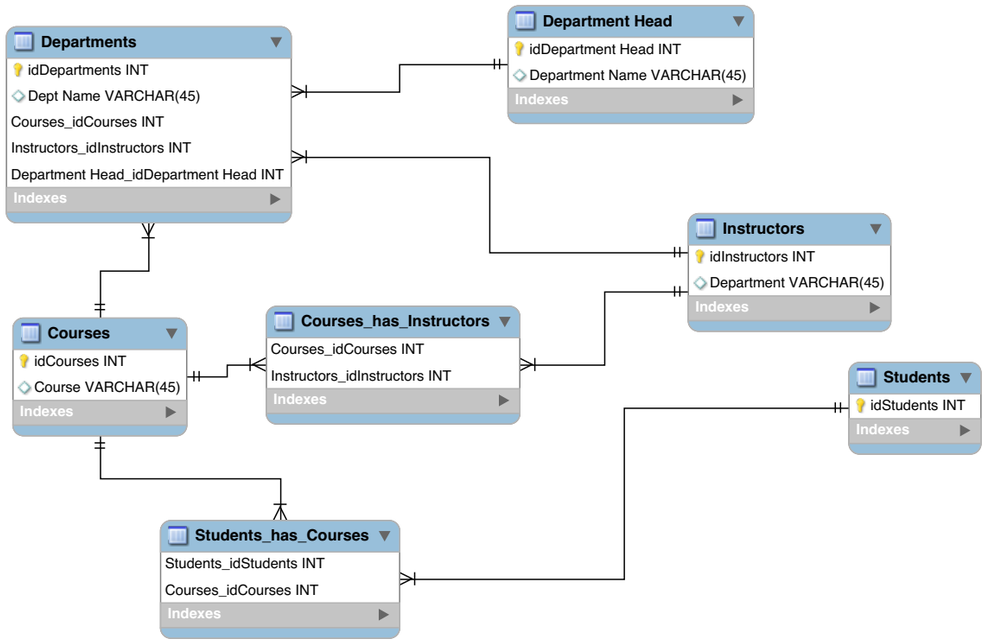
Step 3: Identify the key attributes

It seems like since we have four main tables, we will have four key attributes, or one per table. We have IDinstructor, which is the key attribute for the instructor table. For the student table we have IDstudents as the key attribute. For the department table we have IDDepartment which is the key attribute. And finally, we have IDcourse as the key attribute for the course table. In the last table we have department heads, and we have IDdepartment head as the key attribute

Step 4: Identify other relevant attributes (whenever possible)

For each of the tables we need a few attributes:

Departments: dept name
Courses: course name
Instructors: department
Department head: department name


Departments
idDepartments INT
Dept Name VARCHAR(45)
Courses_idCourses INT
Instructors_idInstructors INT
Department Head_idDepartment Head INT
Indexes
Department Head
idDepartment Head INT
Department Name VARCHAR(45)
Indexes
Instructors
idInstructors INT
Department VARCHAR(45)
Indexes
Courses
idCourses INT
Course VARCHAR(45)
Indexes
Courses_has_Instructors
Courses_idCourses INT
Instructors_idInstructors INT
Indexes
Students
idStudents INT
Indexes
Students_has_Courses
Students_idStudents INT
Courses_idCourses INT
Indexes