Lab 8

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**Rules and Relationships:**

1. College and Department

* A college can contain many departments
* Relationship: One-to-Many (College to Department)

1. Department and Program

* Each department offers one or more programs
* Relationship: One-to-Many (Department to Program)

1. Department and Professor

* A department can employ multiple professors
* Relationship: One-to-Many (Department to Professor)

1. Program and Course (with Program\_Course)

* A program can include several courses
* Courses can be part of one or more programs
* Relationship: Many-to-Many (Program to Course), resolved by Program\_Course bridge entity

1. Professor and Course (with Professor\_Course)

* Professors can teach one or more courses
* Courses can be taught by one or more professors
* Relationship: Many-to-Many (Professor to Course), resolved by Professor\_Course bridge entity

1. Student and Program (with Student\_Program)

* Students can be enrolled in one or more programs
* Programs can have many students enrolled
* Relationship: Many-to-Many (Student to Program), resolved by Student\_Program bridge entity

1. Student and Course (with Student\_Course)

* Students can register for multiple courses
* Courses can have multiple students registered
* Relationship: Many-to-Many (Student to Course), resolved by Student\_Course bridge entity

1. Course and Section

* Each course can have multiple sections
* Each section belongs to one specific course
* Relationship: One-to-Many (Course to Section)

1. Professor and Section

* A professor teaches one or more sections
* Each section is taught by exactly one professor
* Relationship: One-to-Many (Professor to Section)

1. Advisor and Student

* An advisor can advise multiple students assigned to them. But not every student is required to have an advisor
* Having an advisor is optional for a student
* Relationship: One-to-Many (Advisor to Student), with the Advisor\_ID as an optional foreign key in the Student table

A computer screen shot of a diagram

Description automatically generated