Chapter 10

How to design a database

Exercises

1. **(20 Points)** Create a database diagram that shows the relationships between the seven tables in the MyGuitarShop database. (The administrators table is not related to the other six tables.)

2. **(35 Points)** Design a database diagram for a database that stores information about the downloads that users make from a website. Users download software products from the website.

    - Each user must have an email address, first name, and last name.

    - Each user can have one or more downloads.

    - Each download must have a filename and download date/time.

    - Each product can be related to one or more downloads.

    - Each product must have a name.

3. **(45 Points)** Design a database diagram for a database that stores course information for a college. The database should store information about the courses, the students enrolled, and the professors teaching the courses. Also, each professor also acts as an advisor, so they must be assigned students to advise.

    - Each student must have an email address, first name, and last name.

    - Each student can be enrolled in one or more courses.

    - Each course must have a course number, course name, number of credit hours, and course description.

    - Each professor can be teaching one or more courses.

    - Each professor can advise one or more students.

    - Each professor must have an email address, first name, and last name.