Due: Tue. Sep. 24, 2013

Design an ER model for the following application. Then use the ER model to design a relational database.

A company is offering training courses. To make it easy, assume computer and programming courses, such as “intro to Java”, “intermediate Java”, “advanced Java”, “Ruby”, etc... Each course has

- A (unique) title
- zero or more prerequisites
- duration (1 to 3 days)

Courses are offered at different cities and at different dates. For simplicity, we restrict the cities to Greensboro, Winston Salem, Durham, and Raleigh. For example, “intro to Java” is offered in Greensboro on Sept. 30 and Oct. 16; in Durham on Oct. 8; and in Raleigh on Nov. 5. Each offering has a capacity. For example, the capacities for the above offerings are 10, 12, 10, and 20, respectively.

People can register for courses (provided they have the prerequisites) at different cities and different times. We would like to keep track of students names, addresses, emails, birth dates, companies, and company address. Upon completion of a course, the student is assigned a grade by the instructor. For simplicity, we assume grades are A, B, C, and F.

The training company offers a number of “certificates”. Each certificate consists of a set of courses, for example, “intermediate programmer” certificate consists of “intro to Java”, “intermediate Java”, and “Ruby” courses.

Your design should make it possible to keep track of courses and course offerings; students and courses they take and certificates they earn.