CS392 Database System Concept

Assignment 4

Due to Mar. 31th, 2014

1. (15') Explain the distinctions among the terms primary keys, candidate key, and superkey.
2. (15') Explain the difference between a weak and a strong entity set.
3. (15) Construct an E-R diagram for a car insurance company whose customers own one or more cars each. Each car has associated with it zero to any number of recorded accident.
4. (20') Consider a database used to record the marks that students get in different exams of different course offerings.
   a) Construct an E-R diagram that models exam as entities, and uses a ternary relationship, for the database.
   b) Construct an alternative E-R diagram that uses only a binary relationship between *student* and *course_offerings*. Make sure that only one relationship exists between a particular student and course_offering pair, yet you can represent the marks that a student gets in different exams of a course offering.
5. (15') Construct appropriate tables for Problem 3.
6. (20') Define the concept of aggregation. Give two examples of where this concept is useful.