Part Three: Database Creation

Weining Zhang

October 22, 2012

- Total Points: 100
- Total Weight: 6%
- Due: Friday, October 26, 2012, in class

Description

In this part, you will create a relational database for your application. This includes the creation of your database in Oracle and the loading of data into the database. Specifically, your need to do the following.

1. Learn to Use Oracle

   You need to get familiar with Oracle SQL*PLUS environment. You may want to login to SQL*PLUS, learn to use various commands, try out online help, and read on-line documents.

2. Refine Relational Schema

   Before creating the database, you need to refine the relational schema of your database based on my feedback on your Part Two of the project.

3. Define schema in Oracle

   You will convert the refined relational schema into SQL statements that create tables. You need to decide SQL types for attributes and constraints for tables and for columns. Here are some specific requirements.

   (a) You should use various Oracle data types in your tables. Specifically, you should have at least one attribute in each of the following types: integer, real, character string of fixed length, character

string of a variable length, date, sequence, and enumerated values (using a set).

(b) Both table constraints and column constraints should be specified. In addition, you should define at least one object type, and one CHECK constraint.

(c) You should specify primary and foreign keys.

You should keep these SQL DDL statements in a .sql script file, and run it from within SQL*PLUS to create tables.

4. Load data to your database

You should use Oracle SQL*LOADER to populate tables with your application data. You should provide enough data so that complex queries will not always result in empty answers. As a guideline, each table should have about 40 to 50 tuples. For those tables that likely to be involved in multi-table SQL queries for your application, make sure that tuples in different tables will actually join. You do not need to worry about tables that are inherently small. You do not have to make tables really big at this time, you can always add more data in future.

What to Hand In

Hand in a hard copy report that contains the following items.

1. Revised Report of Part Two

Again, include a fresh copy of the revised report of Part Two. Make sure to include reports for Part One and Two with all the revisions. (So that the current report gives a snapshot of the current status of the project).

2. SQL Scripts

Include a hard copy of SQL script files that you use to create domains, tables, views, and sequences, and also SQL*LOADER control files that you use to load your data. (Do not include the data file.)

3. Spool File

Include a spool file that illustrate a session in which you successfully created your database and loaded the data into your database. Please do not hand in pages after pages of data.

4. Special Note

   Include a special note to describe any business rule in the application domain that can not be directly specified in the SQL database schema.