

CSc 8710 DDLP
Fall 2010
Homework 2
Due: 13 September 2010

INSTRUCTIONS:

- Write and execute all queries using the RA, DLOG, DRC, **and** OurSQL interpreters.
 - All students will solve Problem 1. In addition, students whose last name begins with “A” through “K” will solve Problem 2 and the remaining students will solve Problem 3.
1. Specify and execute the following queries on the COMPANY database schema.
 - a. Retrieve the names of all employees in department 5 who work more than 10 hours per week on the ‘ProductX’ project.
 - b. List the names of all employees who have a dependent with the same first name as themselves.
 - c. Find the names of employees who are directly supervised by ‘Franklin Wong’.
 - d. Retrieve the names of employees who work on every project.
 - e. Retrieve the names of employees who do not work on any project.
 - f. Retrieve the names and addresses of all employees who work on at least one project located in Houston but whose department has no location in Houston.
 - g. Retrieve the last names of all department managers who have no dependents.
 2. Consider the following GRADEBOOK relational schema describing the data for a grade book of a particular instructor (Note: The attributes A, B, C, and D store grade cutoffs.)

```
catalog(cno,ctitle)
students(sid,fname,lname,minit)
courses(term,secno,cno,A,B,C,D)
enrolls(sid,term,secno)
```

Specify and execute the following queries on the GRADEBOOK database schema.

- a. Retrieve the names of students enrolled in the ‘Automata’ class in the term of Fall 1996.
- b. Retrieve the SID values of students who have enrolled in CSc226 as well as CSc227.
- c. Retrieve the SID values of students who have enrolled in CSc226 or CSc227.
- d. Retrieve the names of students who have not enrolled in any class.
- e. Retrieve the names of students who have enrolled in all courses in the catalog table.

3. Consider the database consisting of the following relations:

```
supplier(sno, sname)
part(pno, pname)
project(jno, jname)
supply(sno,pno,jno)
```

The database records information about suppliers, parts, and projects and includes a ternary relationship between suppliers, parts, and projects. This relationship is a many-many-many relationship. Specify and execute the following queries.

- a. Retrieve part numbers of parts that are supplied to exactly two projects.
- b. Retrieve supplier names of suppliers who supply more than two parts to project 'J1'.
- c. Retrieve part numbers of parts that are supplied by every supplier.
- d. Retrieve project names of projects that are supplied only by suppliers 'S1'.
- e. Retrieve supplier names of suppliers who supply at least two different parts each to at least two different projects.