Database Design, CSCI 340, Spring 2016
MySQL versus SQLServer, Feb. 5

The SPJ database, for Suppliers-Parts-Projects,was created with the statements below (for MySQL add semicolons). A sample extension should be included with this lab.

```
CREATE DATABASE
      SuppliersPartsProjects
                                    /******* J (Project) Table */
/******* S (Supplier) Table */     CREATE TABLE J
CREATE TABLE S                      (jNo CHAR(4) PRIMARY KEY,
(sNo CHAR(4) PRIMARY KEY,           jName CHAR(30),
sName CHAR(30),                     city CHAR(20))
status INT,
city CHAR(20))                      /******* SPJ (Supplier-Part_Project)
                                    Table */
                                    CREATE TABLE SPJ
/******* P (Part) Table */          (sNo CHAR(4) NOT NULL REFERENCES
CREATE TABLE P                             S(sNo),
(pNo CHAR(3) PRIMARY KEY,           pNo CHAR(3) NOT NULL REFERENCES
pName CHAR(30),                            P(pNo),
pColor CHAR(20),                    jNo CHAR(4) NOT NULL REFERENCES
weight INT,                                J(jNo),
city CHAR(20))                      qty INT,
                                    PRIMARY KEY (sNo, pNo, JNo))
```

Thanks to C.J. Date, <u>An Introduction to Database Systems,</u> for the database and many of the queries.

1. Looking at the sample extension, tell the number of unique projects which are supplied by supplier S005.

2. Write a query which gives the number of unique projects which are supplied by supplier S005.

3. Get all unique pairs of city names, such that a supplier in the first city supplies a project in the second city.

4. Get the part numbers for parts supplied by a supplier in London. Don't duplicate part numbers. (The result is P01 & P06.)

5. For each supplier which supplies parts to a project, tell the total number of parts supplied to some project. (Supplier S001 supplies 900 parts to some project. Supplier S002 supplies 3100 parts to some project, …)

6. For each supplier, tell the total number of parts supplied to some project. This query is very similar to the above except supplier S006, which doesn't supply any parts to any project, must be listed.

7. Get all supplier name / part name / project name triples such that the indicated supplier, part, and project are all located in the same city. List the name of the city along with the names. Note that the supplier does not need to supply a part for a project. (The result contains 22 records, 4 is Paris and the rest in London.)

8. Repeat the above, only this time the supplier must supply a part for the project (and they the supplier, part and project must all be collocated). (Problematic with MySQL because it asks about intermediate results. In this case just write the query.)

9. List the names of the cites where either a supplier, a part manufacturer, or a project is located. List the names alphabetically and don't duplicate names.

10. Get project numbers for projects not supplied with any red part or by any London supplier. (Note that MySQL does not support the MINUS operator but does allow NOT IN.)