Fall 2004 CS 186 Exercise Questions

Week 5 – Ending 10/1

RELATIONAL CALCULUS AND RELATIONAL ALGEBRA

Consider the following schema:

```
Suppliers(sid:integer, sname:string, address:string)
Parts(pid:integer, pname:string, color:string)
Catalog(sid:integer, pid:integer, cost:real)
```

The key fields are underlined, and the domain of each field is listed after the field name. The Catalog relation lists the prices charged for parts by Suppliers. Write the following queries in relational algebra and tuple relational calculus:

1. Find the *name*s of suppliers who supply some red part.

2. Find the *sid*s of suppliers who supply some red or green part.

3. Find the *sid*s of suppliers who supply some red part or are at 221 Packer Street.

4. Find the *sid*s of suppliers who supply some red part and some green part.

5. Find the *sid*s of suppliers who supply every part.

6. Find the *sid*s of suppliers who supply every red part.

7. Find the *sid*s of suppliers who supply every red or green part.

8. Find the *sid*s of suppliers who supply every red part or supply every green part.

9. Find pairs of *sid*s such that the supplier with the first *sid* charges more for some part than the supplier with the second *sid*.

10. Find the *pid*s of parts supplied by at least two different suppliers.

11.Find the *pid*s of the most expensive parts supplied by suppliers named Yosemite Sham.