CS2102 Database Systems
2013/2014 Semester I

Tutorial #3 Relational Calculus

Consider a database application for a pizza company. The company has several stores in various parts of Singapore. Each store has a name. The database records the location of the store and the telephone number of the store. All pizzas have a code identifying them, a name, and size in inches. Different stores may sell the same pizzas at different prices.

The schema of the database is as follows:

Pizza (code, name, size)
Store (name, location, phone)
Sells (store_name, code , price)

Write the following queries in **tuple relational calculus** and **domain relational calculus**.

1. Find the names of pizzas that come in a 10 inch size.

2. Find the names of pizzas that come in a 10 inch or a 12 inch size.

3. Find the names of pizzas that come in both a 10 inch and a 12 inch size.

4. Find the pairs of different pizza codes with the same name and same size. Is there any?

5. Find the names and phone numbers of the stores in "College Park" or "Greenbelt" that sell a 10 inch pizza named "pepperoni" for less than $8.

6. Find the codes of the most expensive pizzas. For simplicity, you may assume the scheme of the database is reduced to a relation PIZZA(code, price)

7. Find the names of the stores that sell all the pizzas.