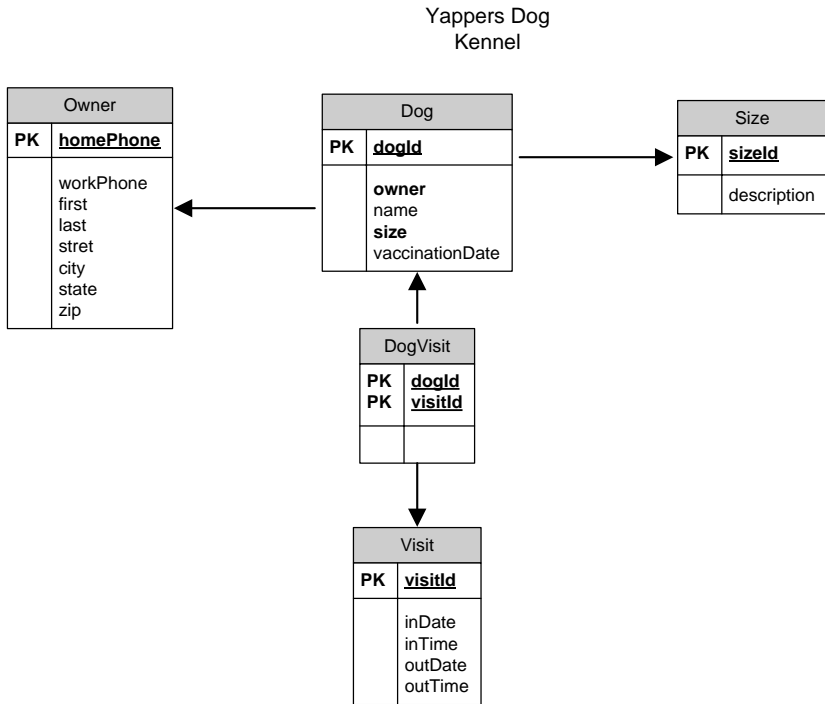


Database Design, CSCI 340, Spring 2016
Relational Algebra exercises, March 7

In the following database schema are relations are 1 to m. The side of the arrow with the arrow head represents minimal and maximum cardinalities of 1 (i.e. 1..1) and the other side represents a minimum cardinality of 0 and a maximum cardinalities of m (0..m).



Write relational algebra queries and SQL queries to extract the following information from the Yappers db.

1. Give the first and last names of all owners in the database.

Relational Algebra	SQL

2. Give the name of all small dogs in the database. For this query say that small dogs have size=1. Don't worry about duplicate names.

Relational Algebra	SQL

3. Give the name of all small dogs in the database, but don't assume that size=1 for small dogs. Instead use the description field of the Size table.

The Size table is as follows:

sizeId	description
1	small
2	medium
3	large

Relational Algebra	SQL

4. Give the name of each dog along with its size (small, medium, large).

Relational Algebra	SQL

5. Give the first and last names of all owners in the database who have kenneled a dog.

Relational Algebra	SQL

6. Give the first and last names of all owners in the database who have kenneled a small dog.

Relational Algebra	SQL

7. Give each owner name, first and last name, along with the number of dogs the db knows about. Owners with no dogs should still be listed.

Relational Algebra	SQL

8. List the home phone number, first and last names, of all owners in the db that have never kenneled a dog.

Relational Algebra	SQL