CIS64A Spring 2020

Homework 2

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1. Suppose that you have a pizza store that need to maintain data for the following items:

- products
- customers
- orders
- delivery drivers

Use the relational model to define the four schemas for relations similar to the slide 2.7 where it defines the schema for instructor:

```
schema:  instructor(ID, name, dept_name, salary)
```

There is no need to list the instances for each relation.

```
products(ID, price, name, quantity)
customers(ID, name, address)
orders(ID, product_id, customer_id, delivery_driver_id, store, total)
delivery_drivers(ID, name, vehicle_id, store)
```

2. Give an example of a Select operation for the orders relation and another example for the customers relation. **Use plain English sentences** similar to the example in slide 2.12, 2.13. There is no need to use mathematical expressions.

Orders relation:
Select those tuples of the orders relation where the total is greater than $25.00.

Customers relation:
Select those tuples of the customers relation where the name is John Smith.

3. Give an example of a Projection for the orders relation and another example for the customers relation. **Use plain English sentences** similar to the example in slide 2.15 to describe what attributes are included in the 2 projections. There is no need to use mathematical expressions.

Orders relation:
Eliminate the delivery_driver_id attribute from orders.

Customers relation:
Eliminate the ID attribute from customers.

4. Suppose that the pizza store manager wants to view the combined information of orders and delivery drivers, then what kind of relational operation do we need to use?

In order for the pizza store manager to view the combined information of orders and deliver drivers, we should use a Cartesian-product operation.