

Lecture 1 Quiz

Write a relational algebra expression to find the customer pairs $(C1, C2)$ such that $C1 < C2$ and they like exactly the same pizzas. Exclude customer pairs that do not like any pizza.

Assume that $\pi_{cname}(Likes) \subseteq \pi_{cname}(Customers)$ and $\pi_{pizza}(Likes) \subseteq \pi_{pizza}(Contains)$.

Contains	
pizza	ingredient
Diavola	cheese
Diavola	chilli
Diavola	salami
Funghi	ham
Funghi	mushroom
Hawaiian	ham
Hawaiian	pineapple
Margherita	cheese
Margherita	tomato
Marinara	seafood
Siciliana	anchovies
Siciliana	capers
Siciliana	cheese

Restaurants	
rname	area
Corleone Corner	North
Gambino Oven	Central
Lorenzo Tavern	Central
Mamma's Place	South
Pizza King	East

Likes	
cname	pizza
Homer	Hawaiian
Homer	Margherita
Lisa	Funghi
Maggie	Hawaiian
Maggie	Margherita
Moe	Funghi
Moe	Sciliana
Ralph	Diavola

Sells		
rname	pizza	price
Corleone Corner	Diavola	24
Corleone Corner	Hawaiian	25
Corleone Corner	Margherita	19
Gambino Oven	Siciliana	16
Lorenzo Tavern	Funghi	23
Mamma's Place	Marinara	22
Pizza King	Diavola	17
Pizza King	Hawaiian	21

Customers	
cname	area
Homer	West
Lisa	South
Maggie	East
Moe	Central
Ralph	Central
Willie	North

Answer	
C1	C2
Homer	Maggie