W5. Relational algebra

Our simple pizza dataset is described by the following schema:

Person (<u>name</u>, age, gender)

Frequents (<u>name</u>, <u>pizzeria</u>)

Eats (<u>name</u>, <u>pizza</u>)

Serves (<u>pizzeria</u>, <u>pizza</u>, price)

1. Find full information about all possible places and prices to get mushroom or pepperoni pizzas.

2. Find name of pizzerias that serve mushroom or pepperoni pizzas.

3. Compute the full list of pizza types, with the corresponding pizzerias and the price of pizza.

4. Find names of all customers under 18.

5. Find names of all female customers older than 25.

Joins

6. Find all pizza types that both Amy and Dan eat.

7. Find the names of all females who eat a mushroom pizza.

8. Find the names of pizzerias where Hil can buy pizzas she eats for less than 10$.

Complex

9. Find the names of all females who eat either mushroom or pepperoni pizza (or both).

10. Find the names of all females who eat both mushroom and pepperoni pizza.

11. Find all pizzerias that serve at least one pizza that Amy eats for less than $10.00.

12. Find all pizzerias frequented by at least one person under the age of 18.

13. Find all pizza types which are not eaten by anyone

14. Find all pizzerias that are frequented by only females or only males.

15. Find all pizzerias where Dan could buy pizzas that he eats, and where he has never bought a pizza yet

16. For each person, find all pizzas the person eats that are not served by any pizzeria the person frequents. Return all such person (name) / pizza pairs.

17. Find the names of all people who frequent only pizzerias serving at least one pizza they eat.

18. Find the names of all people who frequent every pizzeria serving at least one pizza they eat.

19. Find the pizzerias serving the cheapest pepperoni pizza.