**1.**  Consider a database with the following schema:

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| *Person* ( name, age, gender ) | name is a key |
| *Frequents* ( name, pizzeria ) | (name, pizzeria) is a key |
| *Eats* ( name, pizza ) | (name, pizza) is a key |
| *Serves* ( pizzeria, pizza, price ) | (pizzeria, pizza) is a key |

Write relational algebra expressions for the following nine queries. (Warning: some of the later queries are a bit challenging.)

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| a. | Find all pizzerias frequented by at least one person under the age of 18. |
| b. | Find the names of all females who eat either mushroom or pepperoni pizza (or both). |
| c. | Find the names of all females who eat both mushroom and pepperoni pizza. |
| d. | Find all pizzerias that serve at least one pizza that Amy eats for less than $10.00. |
| e. | Find all pizzerias that are frequented by only females or only males. |
| f. | 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. |
| g. | Find the names of all people who frequent only pizzerias serving at least one pizza they eat. |
| h. | Find the names of all people who frequent every pizzeria serving at least one pizza they eat. |
| i. | Find the pizzeria serving the cheapest pepperoni pizza. In the case of ties, return all of the cheapest-pepperoni pizzerias. |