Create the pizza database using pizza.sql
Write RA and SQL expressions for each of the following questions.

Q1 (1 point). Find all the persons under the age of 18.

Q2. (2 points) Find all the pizzerias that serve at least one pizza
that Amy eats for less than $10.00. Print out the pizzeria name,
pizza, and price.

Q3. (2 points) Find all the pizzerias frequented by at least one
person under the age of 18. Print out the pizzeria name, person's
name, and person's age.

Q4. (2 points) Find all the pizzerias frequented by at least one
person under the age of 18 and at least one person over the age of 30.
Print out only the pizzeria name.

Q5. (2 points) Find all pizzerias frequented by at least one person
under the age of 18 and at least one person over the age of 30. Print
out all the quintuples (pizzeria, person1, age1, person2, age2), where
person1 and person2 are persons who frequent the pizzeria, and person1
is under the age of 18 and person2 is over the age of 30.

Q6. (2 points) For each person, find how many types of pizzas he/she
eats. Show only those people who eat at least two types of pizzas.
Sort in descending order of the number of types of pizzas they eat.

Q7. (2 points) For each type of pizza, find its average price. Sort
descending by average price.

1. Select *
   From Person
   WHERE age < 18;

   $\sigma_{age < 18} (Person)$

2. SELECT pizzeria, pizza, price
   FROM Eats JOIN Serves USING (pizza)
   WHERE name = 'Amy' AND price <= 10;

   $\pi_{pizzeria, pizza, price} \left(\sigma_{name = 'Amy', price <= 10} \left(Eats \bowtie Serves \right) \right)$

3. SELECT pizzeria, name, age
   FROM Person JOIN Frequents USING (name)
   WHERE age < 18;

   $\pi_{pizzeria, name, age} \left(\sigma_{age < 18} \left(Person \bowtie Frequents \right) \right)$

4. SELECT pizzeria
   FROM Person JOIN Frequents USING (name)
   WHERE age < 18
   INTERSECT
   SELECT pizzeria
   FROM Person JOIN Frequents USING (name)
   WHERE age > 30;

   $\pi_{pizzeria} \left(\sigma_{age < 18} \left(Person \bowtie Frequents \right) \right) \cap \pi_{pizzeria} \left(\sigma_{age > 30} \left(Person \bowtie Frequents \right) \right)$

5. SELECT pizzeria, Person1.name, Person1.age, Person2.name, Person2.age
   FROM (
       SELECT pizzeria, name, age
       FROM Person JOIN Frequents USING (name)
       WHERE age < 18) Person1
   JOIN (
       SELECT pizzeria, name, age
       FROM Person JOIN Frequents USING (name)
       WHERE age > 30) Person2 USING (pizzeria);

   $Person1 = \pi_{pizzeria, age, name} \left(\sigma_{age < 18} \left(Person \bowtie Frequents \right) \right)$

   $Person2 = \pi_{pizzeria, age, name} \left(\sigma_{age > 30} \left(Person \bowtie Frequents \right) \right)$

   $\pi_{pizzeria, person1.name, person1.age, person2.name, person2.age} \left(person1 \bowtie person2 \right)$

6. SELECT name, count (pizza) AS total
   FROM Eats
   GROUP BY name
   HAVING count (pizza) >= 2
   ORDER BY total DESC;

   $\pi_{total} \left(\pi_{name, count} \left(\sigma_{total \geq 2} \left(\gamma_{name, count(pizza) \to total} \left(Eats \right) \right) \right) \right)$

7. SELECT pizza, AVG(price) avgprice
   FROM Serves
   GROUP BY pizza
   ORDER BY avgprice DESC;

   $\pi_{avg} \left(\pi_{pizza, avgprice} \left(\gamma_{pizza, avg(price) \to avgprice} \left(Serves \right) \right) \right)$