

DB A2

21K4653

Ali Zain

Q1:

1. $\pi_{\text{color}}(\sigma_{\text{sname}='Albert'}(s)) \bowtie r \bowtie b$
2. $\pi_{\text{sid}}[(\sigma_{\text{rating} \geq 8}(s) \cup \pi_{\text{sid}}[\sigma_{\text{bid}=103}(r)])]$
3. $\pi_{\text{sname}}([\pi_{\text{sid}}(s) - \pi_{\text{sid}}(\sigma_{\text{color}='red'}(b) \bowtie r)] \bowtie s)$
4. $\pi_{\text{sid}}[(\sigma_{\text{age} > 20}(s)) - \pi_{\text{sid}}(\sigma_{\text{color}='red'}(b) \bowtie r)]$
5. $\pi_{\text{s.sname}}[\sigma_{\text{r.sid}=r2.\text{sid} \wedge \text{r.bid} \neq r2.\text{bid}}(r \times P_{r2}(r) \bowtie s)]$
6. $\pi_{\text{s.sname}}([\pi_{\text{sid,bid}}(r) \div \pi_{\text{bid}}(b)] \bowtie s)$
7. $\pi_{\text{sname}}([\pi_{\text{sid,bid}}(r) \div \pi_{\text{bid}}(\sigma_{\text{name}='Bigboat'}(b))] \bowtie s)$
8. $\pi_{\text{sid}}(\sigma_{\text{s.rating} > s1.\text{rating}}[P_{s2}(s) \times \sigma_{\text{sname}='Bob'}(s)])$
9. $\pi_{\text{sid}}(s) - \pi_{s2.\text{sid}}(\sigma_{s2.\text{rating} \leq s.\text{rating}}(P_{s2}(s) \times \sigma_{\text{sname}='Bob'}(s)))$
10. $\pi_{\text{sid}}(s) - \pi_{s2.\text{sid}}(\sigma_{s2.\text{rating} \leq s.\text{rating}}(P_{s2}(s) \times s))$

Q2:

1.

Text : Find all pizzerias frequented by person under the age of 18.

Query: select pizzeria from frequents join person using(name) where age < 18.

2.

Text : Find the names of all females who eats either mushroom or pepperoni pizza

Query: select name from Person P join Eats E using(name) where P.gender= 'Female' and (E.pizza='mushroom' or E.pizza = 'pepperoni')

3.

Text: Find the pizzerias that serves pizza to Amy to eat for less than 10

Query: select pizzeria from Eats E join Serves S using (pizzeria) where E.name='Amy' And S.price < 10

4.

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

Query: select t2.name from frequents t1 right join (select * from eats join serves using(pizza)) t2 on t1.name = t2.name and t1.pizzeria = t2.pizzeria where t1.pizzeria is null

5.

Text: Find the names of all people who frequent every pizzerias serving at least one pizza they eat.

Query: select * from frequents t1 join (select * from eats join serves using(pizza)) t2 on t1.name = t2.name and t1.pizzeria = t2.pizzeria;