

Ques 4 Relation are there:-

employ (person-name, street, city);
works (person-name, company-name, salary);
company (company-name, city);
manages (person-name, manager-name);

Query1:- Name of all employee who work for FBC.

2:- Find name & city of residence of all employees who work for FBC.

3:- Find name street, city of all employee who work for FBC & earn more than 10000.

4:- Find name of employee who live in same city as the company for which they work.

5:- Find name of all employee who live in the same city & street as do their manager.

6:- Find name of employee who do not work for FBC.

7:- Find name of all employee who earn more than every employee of SBC.

8:- Assume the companies may be located in several cities. Find all companies located in every city in which SBC is located.

① $\Pi_{\text{person_name}} (\sigma_{\text{company_name} = 'FBC'} (\text{works}))$

② $\Pi_{\text{person_name}, \text{city}} (\text{employee} \bowtie (\sigma_{\text{company_name} = 'FBC'} (\text{works})))$

③ $\Pi_{\text{person_name}, \text{city}, \text{street}} (\sigma_{(\text{company_name} = 'FBC' \wedge \text{salary} > 10000)} (\text{works} \bowtie \text{employee}))$

④ $\Pi_{\text{person_name}} (\text{employee} \bowtie \text{works} \bowtie \text{company})$

⑤ $\Pi_{\text{person_name}} (\text{employee} \bowtie \text{manages})$
 $\bowtie (\text{manager_name} = \text{employee2.person_name} \wedge \text{employee.street} = \text{employee2.street}$
 $\wedge \text{employee.city} = \text{employee2.city}) (\rho_{\text{employee2}}(\text{employee}))$

⑥ $\Pi_{\text{person_name}} (\sigma_{\text{company_name} \neq 'FBC'} (\text{works}))$

⑦ $\Pi_{\text{person_name}} (\text{works}) - (\Pi_{\text{works.person_name}} (\text{works} \bowtie (\text{works.salary} \leq \text{works2.salary} \wedge \text{works2.company_name} = 'SBC') \rho_{\text{works2}}(\text{works})))$

⑧ $\Pi_{\text{company_name}} (\text{company} \div (\Pi_{\text{city}} (\sigma_{\text{company_name} = 'SBC'} (\text{company}))))$