

Problem 1 .

Solution: $E - \Pi_{person_name, street, city}(E \bowtie M)$

Problem 2 .

Solution: 令 $A = E \bowtie M$ (即 A 表示有上级经理的员工的四则信息), 则答案为:

$\Pi_{A.person_name}(\sigma_{A.street=E.street \wedge A.city=E.city}(A \bowtie_{A.manager_name=E.person_name} E))$

Problem 3 .

Solution: $\Pi_{person_name}(\sigma_{company_name \neq 'First Bank Corp'}(W))$

Problem 4 .

Solution: 记 $S = W$, 则答案为

$\Pi_{person_name}(W) - \Pi_{person_name}(W \bowtie_{W.salary <= S.salary \wedge S.company_name = 'Small Bank Corp'} S)$

Problem 5 .

Solution: 记 $S = W$, 则答案为

$\Pi_{manager_name}(\sigma_{M.person_name \neq S.person_name \wedge M.manager_name = S.manager_name}(M \times S))$

Problem 6 .

Solution: (注意: 南京以 “Nanjing” 代替)

$\Pi_{person_name}(\sigma_{city = 'Nanjing'}(W \bowtie C))$