lab 1

N1

1) $\Pi_{ID, name}(\sigma_{company\text{-}name = \text{"Big Bank"}}(works))$

2) $\Pi_{ID, name, city}(\sigma_{employee.ID = works.id \wedge company\text{-}name = \text{"Big Bank"}}(employee \times works))$

3) $\Pi_{ID, name, street, city}(\sigma_{employee.id = works.id \wedge company\text{-}name = \text{"Big Bank"} \wedge salary > 10000}(works \times employee))$

4) $\Pi_{ID, name}(\sigma_{employee.city = company.city \wedge employee.ID = works.ID \wedge works.company\text{-}name = company.company\text{-}name}(employee \times works \times company))$

N2

1) $\Pi_{ID, name}(\sigma_{company\text{-}name = \text{'Big Bank'}}(works))$

2) $\Pi_{ID, name}(\sigma_{salary >= avg(salary)}(works))$

N3

instructor (ID, name, dept_name, salary) department (dept_name, building, budget)

if we'll insert values into the instructor table, where departments table doesn't have dept_name value will be cause of violation foreign-key.

if we'll delete values from departments table, when in instructor table have people with dept_name as deleted value will be cause of violation foreign-key.

N4

employee (person-name, street, city) → person_name

works (person_name, company_name, salary) → person_name

company (Company_name, city) → company_name

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