

Laboratory work 2

①

$\text{employee}(\text{person_name}, \text{street}, \text{city})$

$\text{works}(\text{person_name}, \text{company_name}, \text{salary})$

$\text{company}(\text{company_name}, \text{city})$

Figure.

1. $\Pi_{\text{ID}, \text{person_name}} (\sigma_{\text{company_name} = "Bigbank"} (\text{works}))$
2. $\Pi_{\text{ID}, \text{person_name}, \text{city}} (\text{employee} \bowtie \sigma_{\text{company_name} = "Bigbank"} \text{works}$
 $\text{ID} = \text{employee.ID.} (\text{works}))$
3. $\Pi_{\text{ID}, \text{person_name}, \text{street}, \text{city}} (\text{employee} \bowtie \sigma_{\text{company_name} = "Bigbank"} \wedge$
 $\text{salary} > 10000 (\text{works}))$
4. $\Pi_{\text{ID}, \text{person_name}} (\text{employee} \bowtie \sigma_{\text{employee.city} = \text{company.city}} \text{works})$
 $\bowtie (\text{company}))$

② $\Pi_{\text{ID}, \text{person_name}} (\sigma_{\text{company_name} \neq "Bigbank"} (\text{works}))$

$\Pi_{\text{person_name}} (\sigma_{\text{works.salary} > \text{all} \wedge \text{company.name} = "Bigbank"} (\text{works}))$

③ Inserting a tuple:

(10111, Math, Finance, 77000) into the instructor table,
where the department table doesn't have the department
Finance, would violate the foreign key constraint.

Deleting the tuple:

re (Physics, Serik, 15000) from the department table,
• where at least one student or instructor tuple
• has dept_name as Physics, would violate the
foreign key constraint.

④ Employee: ID or person_name or (person_name,
company_name)

Works: ID or person_name

if person \downarrow works

in 2 company

Company: company_name