

Laboratory work 1.

Nº 1.

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

Nº 2. 1) $\pi_{ID, person_name} (\sigma_{company_name \neq "Bigbank"}(works))$

2) $\pi_{ID, person_name} (employee) - \pi_{ID, person_name} (\pi_{ID, person_name} (\sigma_{company_name = "Bigbank"}(works)))$

2) $\pi_{ID, person_name} (\sigma_{salary \geq average(salary)}(works))$

Nº 3) When we insert tuple with unique department, which doesn't exist in the table, then we will have foreign key constraint. Also when we delete tuple with unique department, which only one in his column, that will cause an error, a foreign key constraint.

Nº 4).

employee (ID, person-name, street, city)

works (~~ID~~ ID, person-name, company-name, salary)

company (company-name, city)

for employee : ID

for works : ID

for company : company-name