# Lab 2.

employee (person_name, street, city)
works (person_name, company_name, salary)
company (company_name, city)

## ex 1

- Name of each employee who works for „BigBank".

$$\Pi_{person\_name}(\sigma_{company\_name="BigBank"}(works))$$

- Name and city of residence of each employee who works for „BigBank".

$$\Pi_{person\_name, city}(\sigma_{company\_name="BigBank"}(works \bowtie employee))$$

- Name, street, and city of residence of each employee who works for „BigBank" and earns more than $10 000.

$$\Pi_{person\_name, street, city}(\sigma_{company\_name="BigBank" \wedge salary > 10000}(works \bowtie employee))$$

- Name of each employee in this database who lives in the same city as the company for which she or he works.

$$\Pi_{person\_name}(\sigma_{company\_name="BigBank" \wedge employee.city = company.city}(employee \bowtie works \bowtie company))$$

## №2

- Name of each employee who doesn't work for „Big Bank".

$\Pi_{\text{person-name}} ( \sigma_{\text{company-name} \neq \text{„BigBank"}} ( \text{works} ) )$

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- Name of each employee who ~~doesn't~~ earns at least as much as every employee in the database.

$\Pi_{\text{person-name}} ( \text{person-name } G_{\min(\text{salary})} (\text{works}) )$

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## №3

Examples of insert:

1) If we insert value, which is not approiate datatype.

2) If we insert value in the new tuple, which is already exists in another tuple.

Examples of delete:

1) If we delete primary key without deleting foreign keys which are reference to this primary key.
(Solution: Cascade deleting - if record in the parent table is deleted, then the corresponding records in the child table will automatically be deleted)

## №4

employee → person-name
company → company-name
} appropriate primary key.