Laboratory work 1

1. Find the ID and name of each employee who works for “BigBank

$$\Pi_{ID,name}(\delta_{company\_name=\text{Big Bank}} = (works))$$

2. Find the ID, name, and city of residence of each employee who works for “BigBank”.

$\Pi_{ID,name,city}(\delta_{company\ \_name=\text{"Big Bank"}}\ (employee \bowtie_{employee.person\_name=} works))\ _{works.person\_name}$

3. Find the ID, name, street address, and city of residence of each employee who works for “BigBank” and earns more than $10000.

$\Pi_{ID,name,street,city}(\delta_{company\ \_name=\text{"Big Bank"} \wedge \text{salary} > 10000}\ (employee \bowtie_{employee.person\_name=} works))\ _{works.person\_name}$

4. Find the ID and name of each employee in this database who lives in the same city as the company for which she or he works.

$\Pi_{ID,name,street}(\delta_{company\ .city=employee.city}\ (employee \bowtie_{employee.person\_name=} works \bowtie\ _{works.company\_name=works.person\_name}\ _{company.company\_name}$

$= company))$

2.1 Find the ID and name of each employee who does not work for “ BigBank”.

$\Pi_{ID,name}(\delta_{company\ \_\ name\neg=\text{"Big Bank"}}\ (employee\ X\ works))$

2.2 Find the ID and name of each employee who earns at least as much as every employee in the database

$\Pi_{ID,name}(\delta_{salary>=avg(salary)}\ (employee\ X\ works))$

3. if we insert smth else in dept_name we get violation of foreign keys. If we delete smth in primary keys it will be also violation.
4. For employee: ID, {ID,NAME};
Works: ID, {ID, company_name};

Company : Company_name