ID: 20B030842 Lab1 Уетмен Камазанов 11.06.22

1. 1) $\Pi_{ID, person\_name}(\sigma_{company\_name = \text{"Big Bank"}}(\sigma_{employee.ID = works.ID}(employee \times works)))$

2) $\Pi_{ID, person\_name, city}(\sigma_{company\_name = \text{"Big Bank"}}(\sigma_{employee.ID = work.ID}(employee \times works)))$

~~3) $\Pi_{ID, person\_name}(\sigma_{employee\ city})$~~

3) $\Pi_{ID, person\_name, streeb, city}(\sigma_{company\_name = \text{"Big Bank"} \wedge salary > 10000}(\sigma_{employee.ID = works.Ip}(employee \times works)))$

4) $\Pi_{ID, person\_name}(\sigma_{employee.city = company.city}($ employee $\bowtie_{employee.ID = works.ID}$ works $\bowtie_{works.company\_name = company.company\_name}$ company$)$

2.

1) $\Pi_{ID, person\_name}(\sigma_{company\_name = \text{"Big Bank"}}(\sigma_{employee.ID = works.ID}(employee \times works)))$

2) $\Pi_{ID, person\_name}(\sigma_{salary > avg(salary)}(\sigma_{employee.ID = works.ID}(employee \times works)))$

3. Inserting:
(0038, Yermek, Physics, 400000)
Inserting into instructors table Physics dept which is not in the department table will violate foreign-key constraint
Deleting:
(Chemistry, Central, 500000)
Deleting Chemistry dept where we have at least 1 instructor will violate the foreign key constraint

4. employee (ID, person_name, street, city)
works (ID, person_name, company_name, salary)
company (company_name, city)