Lab 1

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1)

1. $\prod_{ID,pname}(\sigma_{company\_name = \text{“Big Bank”}}(works))$

2. $\prod_{ID,pname,city}(\sigma_{company\_name = \text{“Big Bank”}}(works(company\_name) \times employee(company\_name)))$

3. $\prod_{ID,pname,saddres,city}(\sigma_{company\_name = \text{“Big Bank”} \wedge salary > 10000\$}(works \times employee))$

4. $\prod_{ID,pname}(\sigma_{company\_name = \text{“Big Bank”}}(works \times employee \times company))$

2)

1. $\prod_{ID,pname}(\sigma_{company\_name \neq \text{“Big Bank”}}(works))$

2. $\prod_{ID,pname,city}(\sigma_{salary = MIN\text{“Big Bank”}}(works \times employee))$

3)

• Inserting a tuple: (10111, Ostrom, Math, 110,000) into the instructor table, where the department table does not have the department Math, would violate the foreign key constraint.

• Deleting the tuple: (Biology, Thomas, 90000) from the department table, where at least one student or instructor tuple has dept name as Biology, would violate the foreign key constraint.

4)

The primary key of all databases are person_name and company_name.