Databases
Laboratory work 1
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1.

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

2.

1) $\prod_{ID,\ person\_name}(\sigma_{company\_name \neq \text{“}Big\ Bank\text{”}}(works))$
2) $\prod_{ID,\ person\_name}(\sigma_{salary \geq MIN\ salary}(works \times employee))$

3.

Insert: (Hawking, Physics, 200.000) into the instructor table,where the department table does not have the department Physics, would violate the foreign key constraint.

Delete: (Galileo, Astronomy, 145.000) from the department table where at least one student or instructor tuple has dept name as Astronomy, would violate the foreign key constraint.

4.

The primary key is *company_name* or *ID*.