

# LABORATORY WORK 1

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## EX 1.

1.  $\Pi ID, name(\sigma_{company\_name = \text{“BigBank”}}(works))$
2.  $\Pi ID, city(\sigma_{company\_name = \text{“BigBank”}}(works \times employee))$
3.  $\Pi ID, name, city(\sigma_{company\_name = \text{“BigBank”} \wedge salary > 10000}(works \times employee \times company))$
4.  $\Pi ID, name(\sigma_{employee.city = company.city}(employee \times company))$

## EX 2.

1.  $\Pi ID, name(\sigma_{company\_name \neq \text{“BigBank”}}(works))$
2.  $\Pi ID, name(\sigma_{salary = \max(salary)}(works))$

## EX 3.

1. Giving value, that doesn't exist, to “dept\_name” attribute will cause a violation of the foreign-key constraint

2. Delete tuple (22222, Einstein, Physics, 95000)

<i>ID</i>	<i>name</i>	<i>dept_name</i>	<i>salary</i>
22222	Einstein	Physics	95000
12121	Wu	Finance	90000
32343	El Said	History	60000
45565	Katz	Comp. Sci.	75000
98345	Kim	Elec. Eng.	80000
76766	Crick	Biology	72000
10101	Srinivasan	Comp. Sci.	65000
58583	Califieri	History	62000
83821	Brandt	Comp. Sci.	92000
15151	Mozart	Music	40000
33456	Gold	Physics	87000
76543	Singh	Finance	80000

#### **EX 4.**

“street” and “salary” are primary keys, because they are uniquely specify a tuple.