Laboratory work 1

Please write your answers to the pdf file for defense:

1. Consider the employee database of figure below. Give an expression in the relational algebra to express each of the following queries:

employee (person_name, street, city)
works (person_name, company_name, salary)
company (company_name, city)

Figure

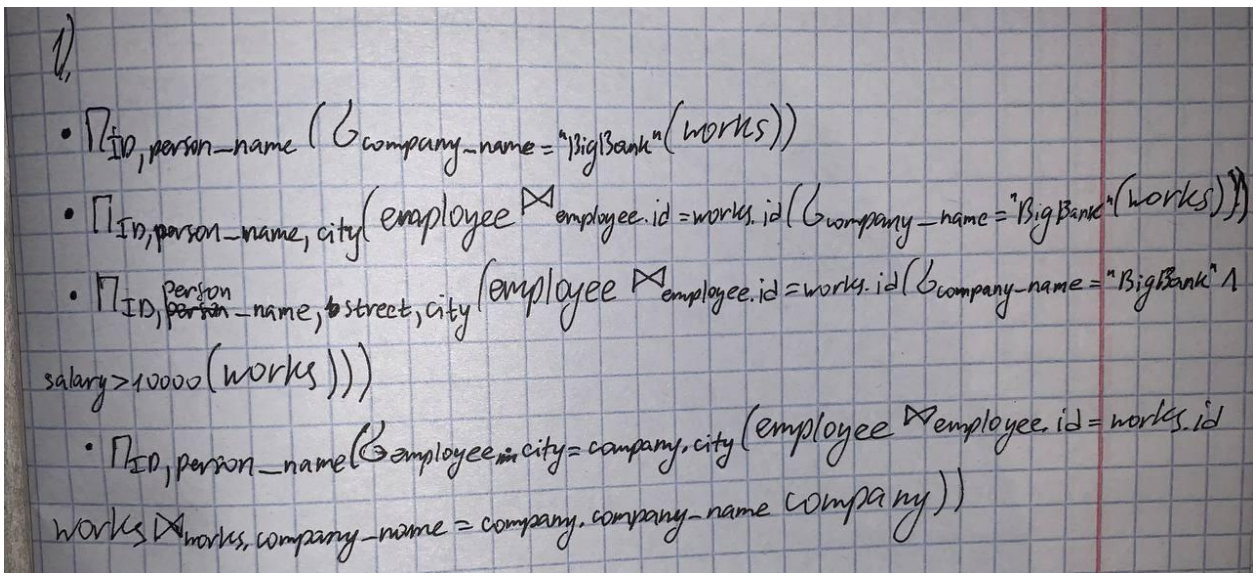
• Find the ID and name of each employee who works for "BigBank".

• Find the ID, name, and city of residence of each employee who works for "BigBank"

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

• 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.

Answer:



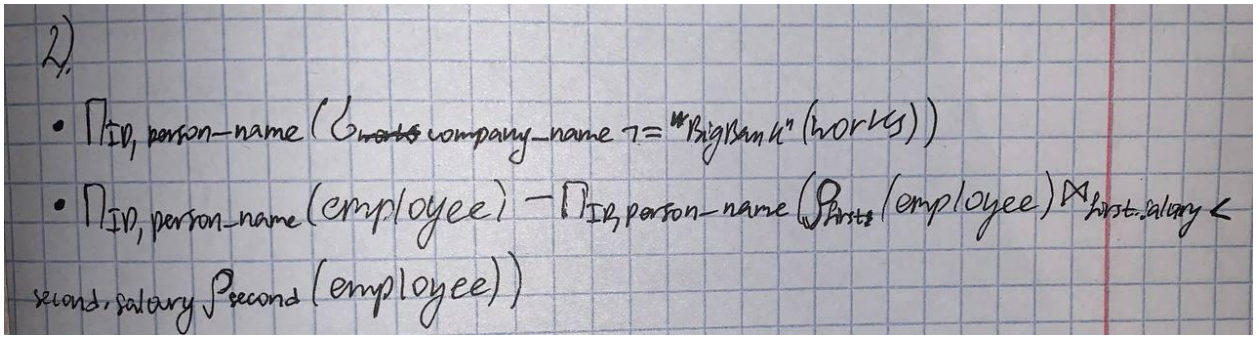
2. Consider the employee database of figure above. Give an expression in the relational algebra to express each of the following queries:

• Find the ID and name of each employee who does not work for "

BigBank".

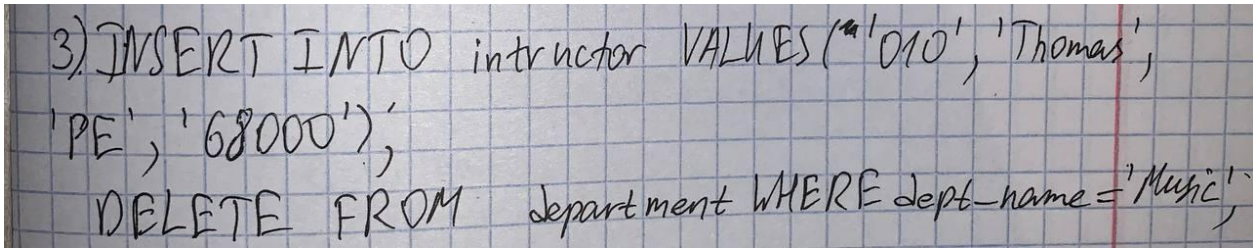
• Find the ID and name of each employee who earns at least as much as every employee in the database.

Answer:



3. Consider the foreign-key constraint from the *dept_name* attribute of instructor to the department relation. Give examples of inserts and deletes to these relations that can cause a violation of the foreign-key constraint.

Answer:



4. Consider the employee database of figure above. What are the appropriate primary keys?

Answer: