

Intro To Data Engineering

Assignment 1

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Question 1: Give the expression in the relational algebra.

- a. Find the ID and name of each employee who works for “BigBank”**

$\Pi_{\text{person\_name}}(\sigma_{\text{company\_name} = \text{'BigBank'}}(\text{works}))$

- b. Find the ID, name, and city of residence of each employee who works for “BigBank”**

$\Pi_{\text{person\_name}, \text{city}}(\sigma_{\text{company\_name} = \text{'BigBank'}}(\text{works} \bowtie \text{employee}))$

- c. Find the ID, name, street address, and city of residence of each employee who works for “BigBank” and earns more than \$10000**

$\Pi_{\text{person\_name}, \text{street}, \text{city}}(\sigma_{\text{company\_name} = \text{'BigBank'} \wedge \text{salary} > 10000}(\text{works} \bowtie \text{employee}))$

- d. 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.**

$\Pi_{\text{person\_name}}(\sigma_{\text{employee.city} = \text{company.city}}(\text{works} \bowtie \text{employee} \bowtie \text{company}))$