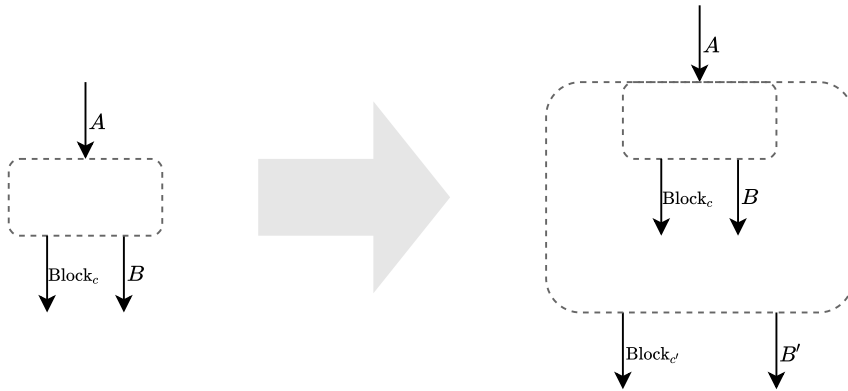


Queries

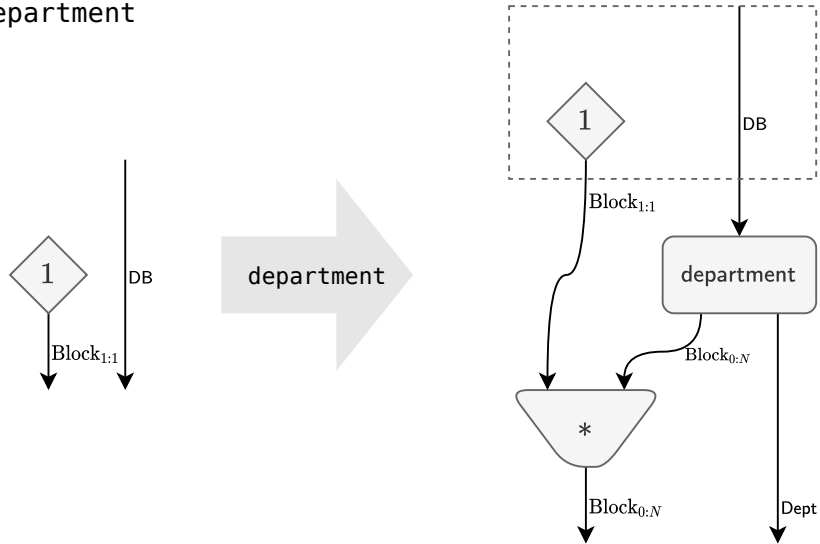


Queries extend monadic transformations.

Queries: Example

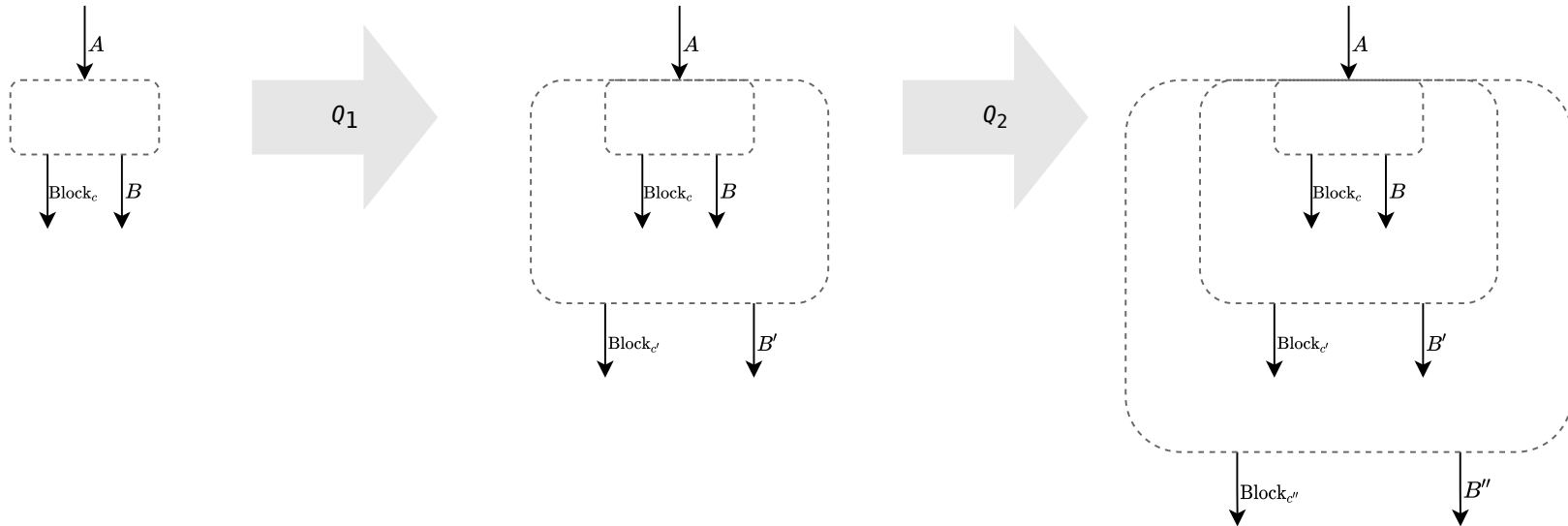
List all departments.

department



Query Composition

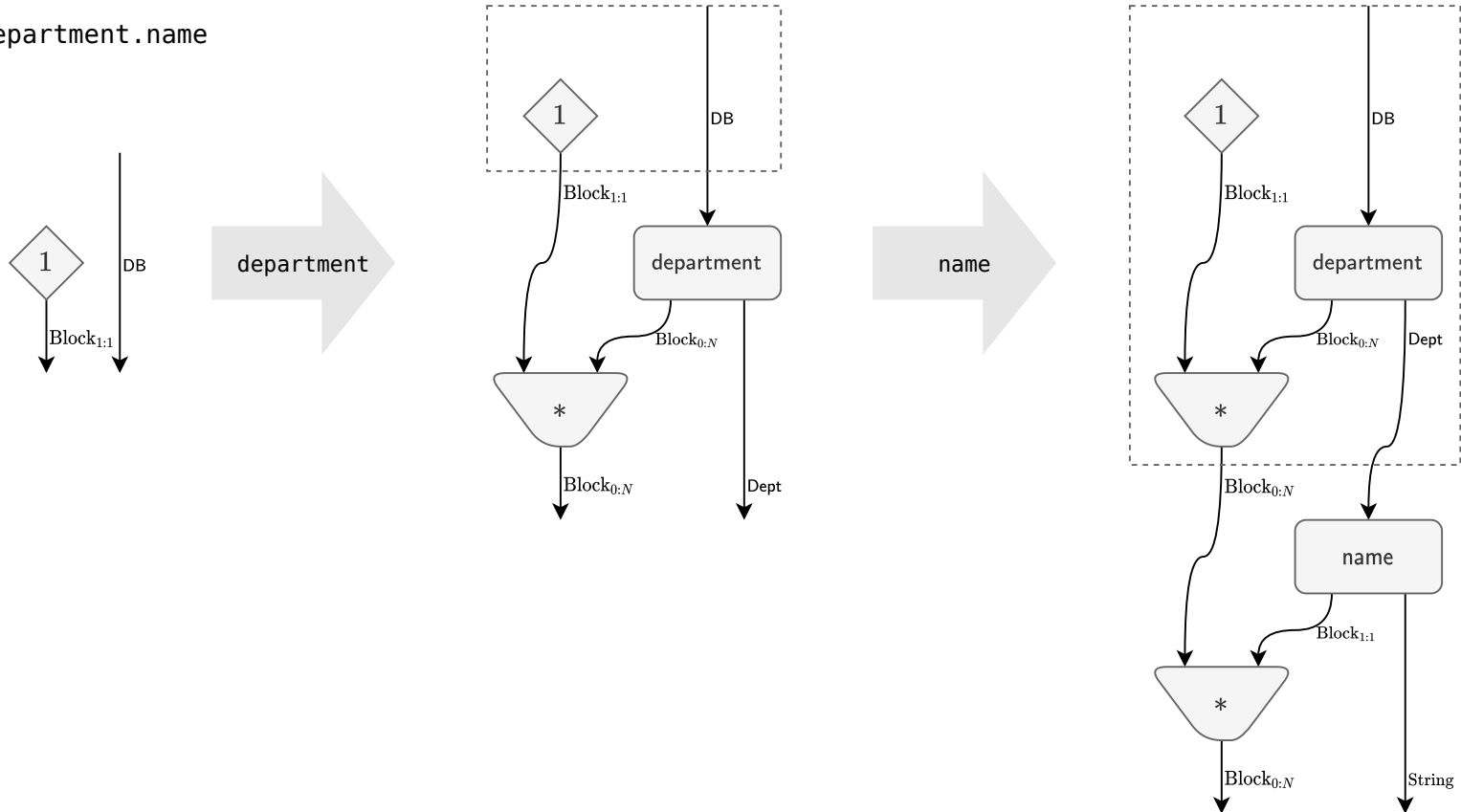
$Q_1 \cdot Q_2$



Query Composition: Example

List the names of all departments.

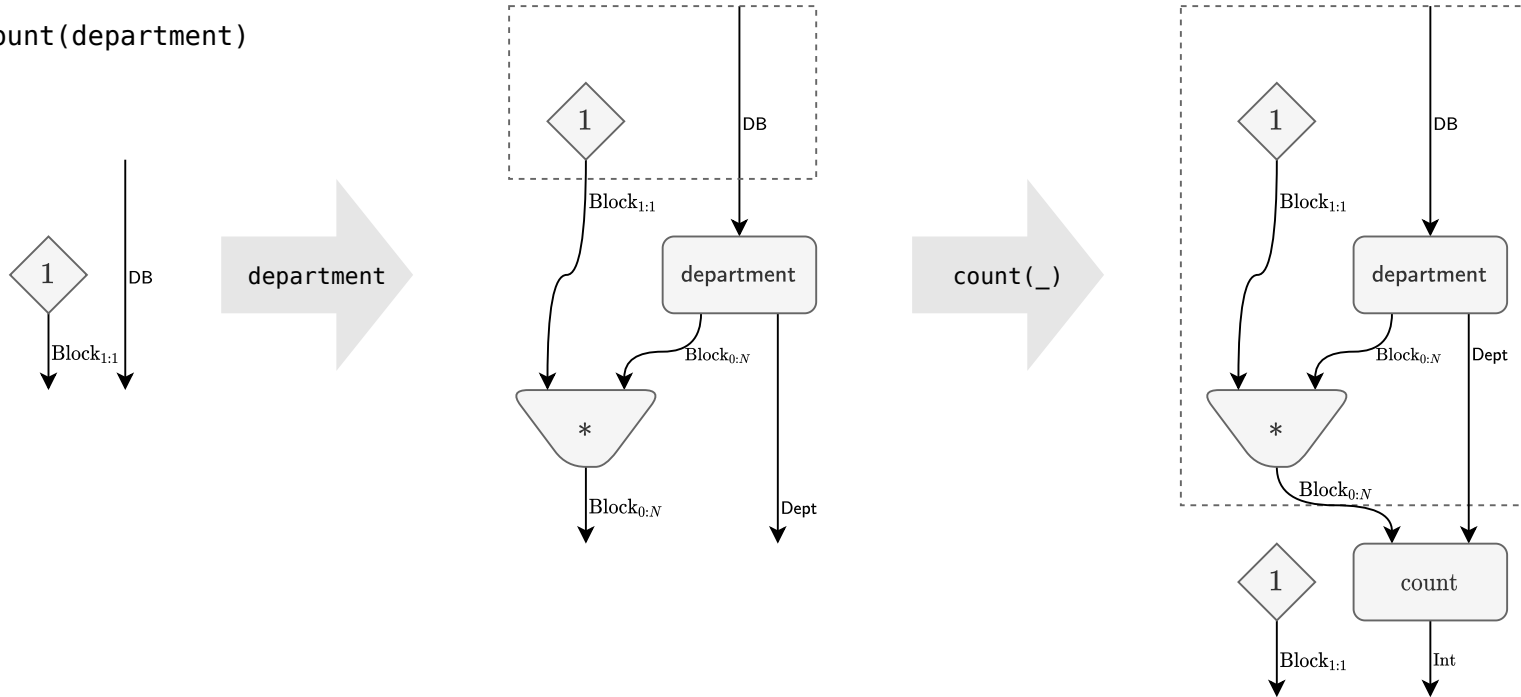
department.name



Counting Example

Show the number of departments.

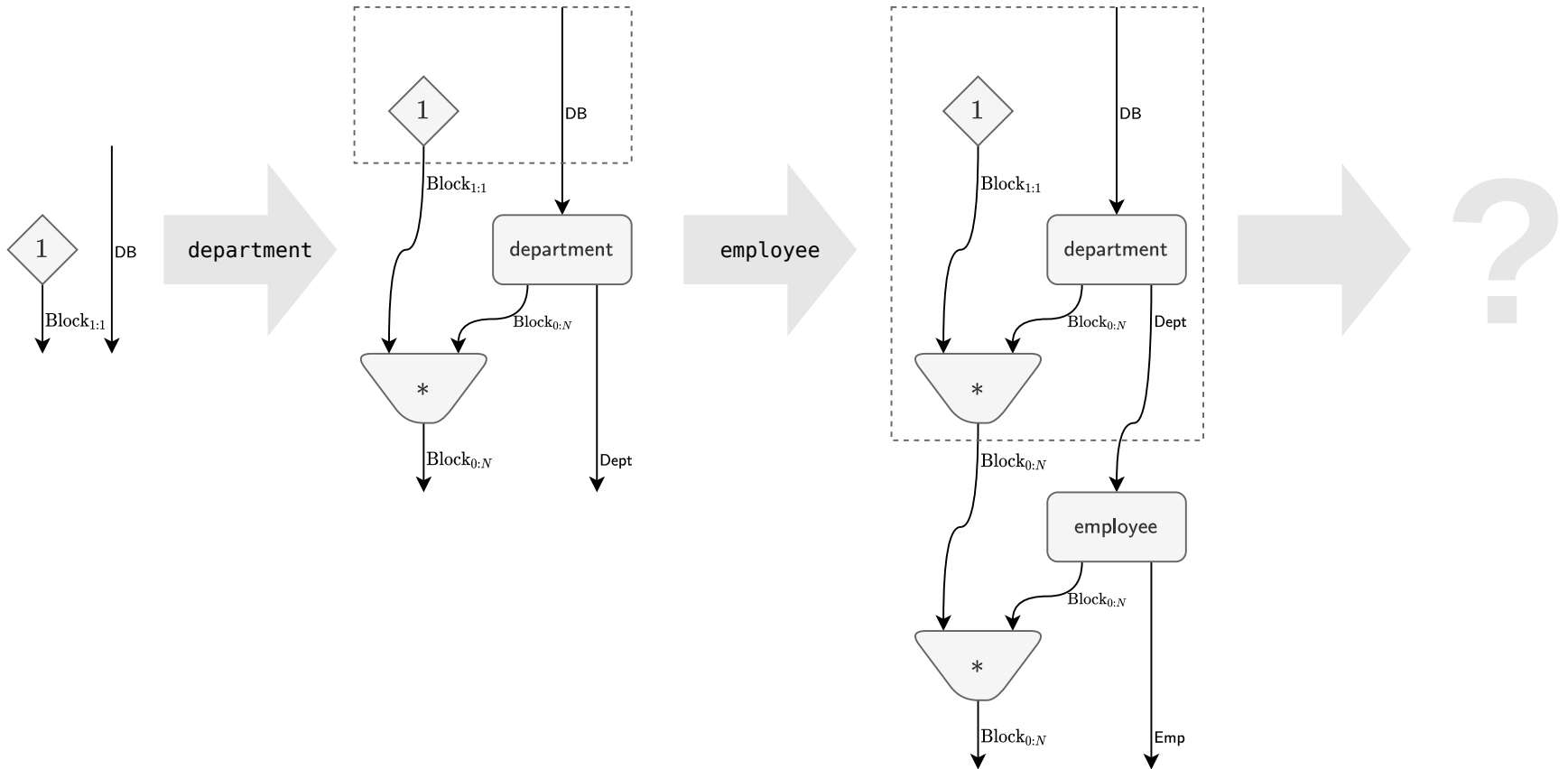
```
count(department)
```



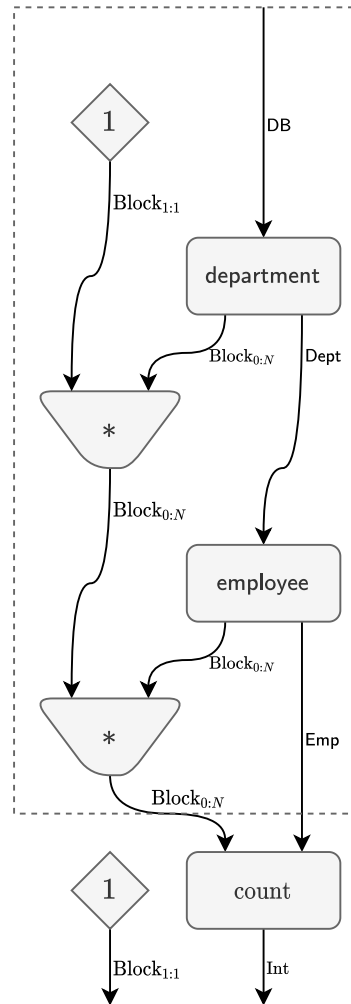
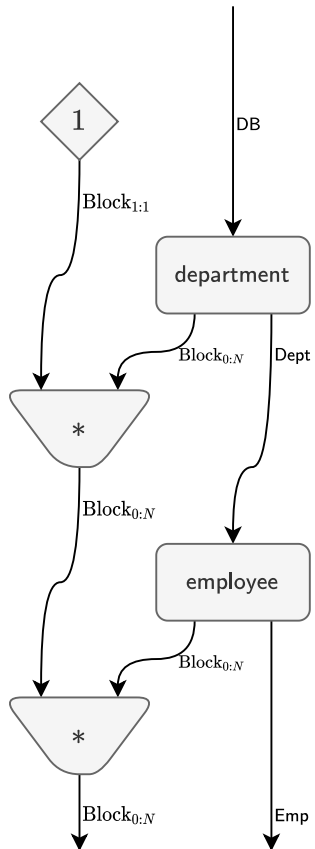
Counting Challenge 1

Show the number of employees
in each department.

`department.count(employee)`



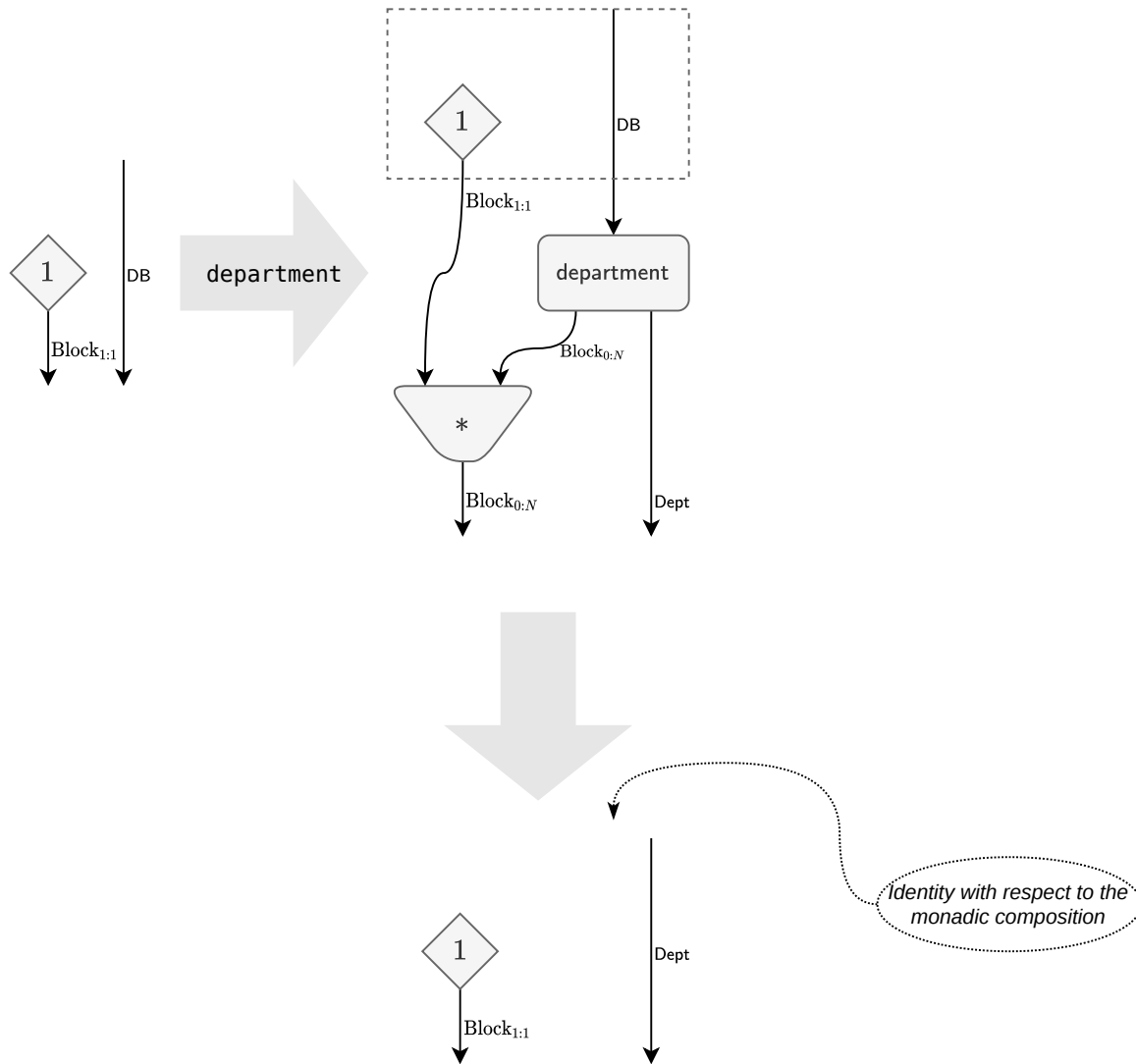
Counting Challenge 2



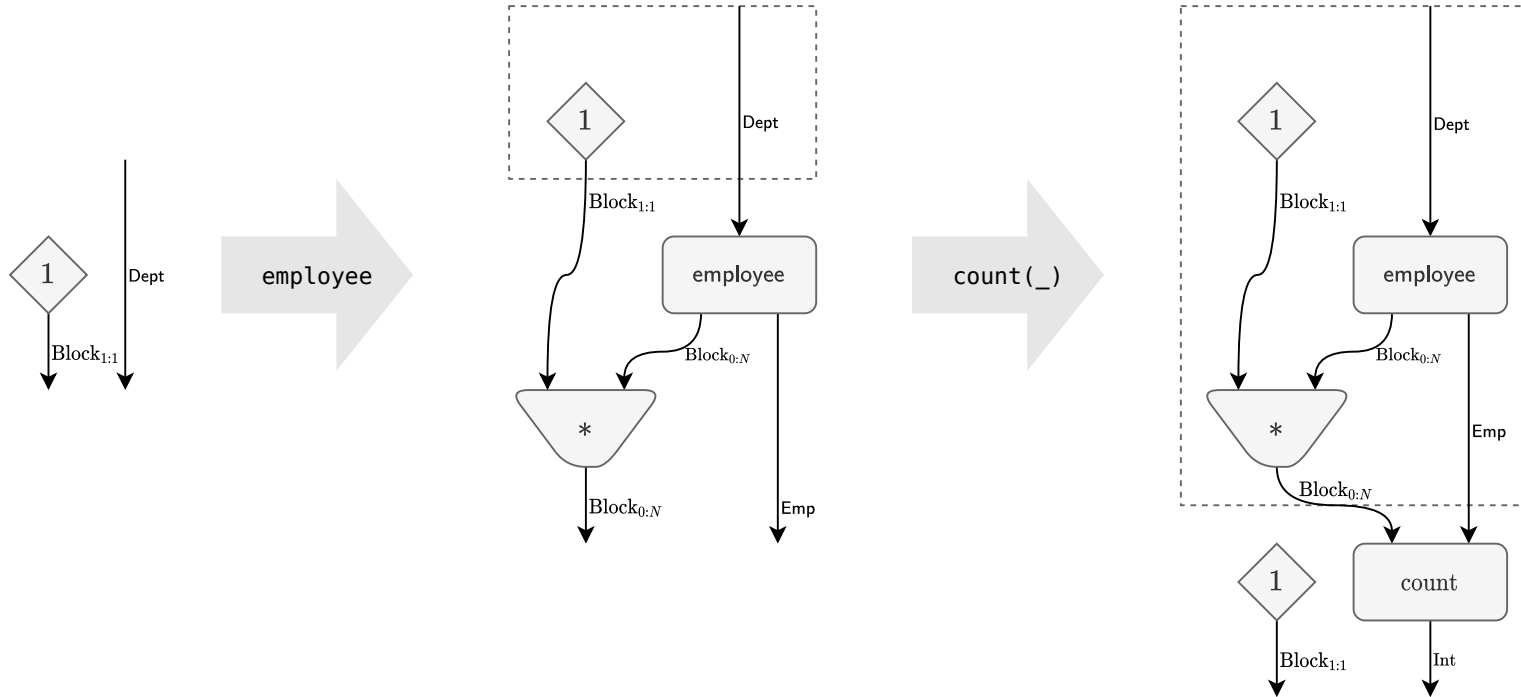
Show the total number of employees across all departments.

`count(department.employee)`

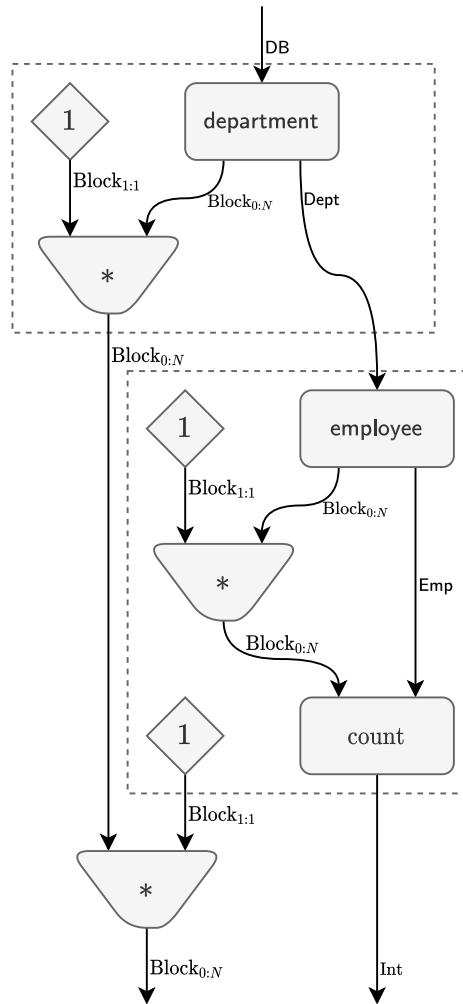
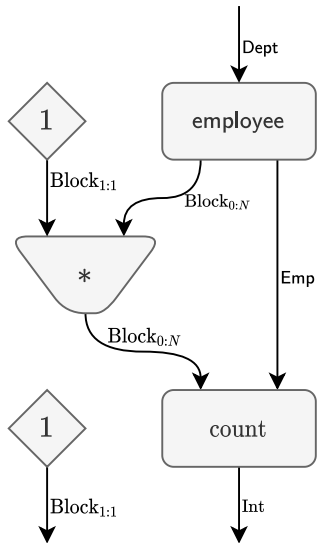
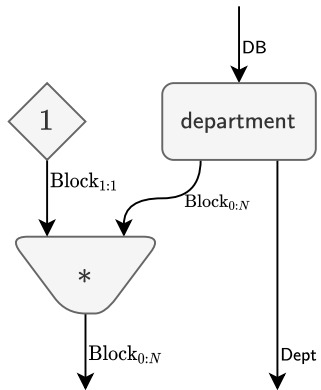
Counting Challenge 3



Counting Challenge 4



Counting Challenge 5



Show the number of employees
in each department.

`department.count(employee)`