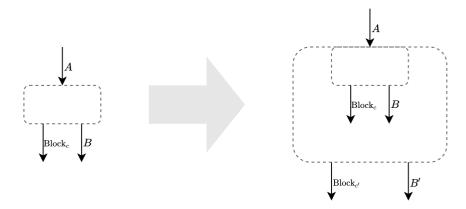
Queries

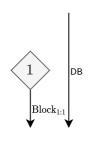


Queries extrend monadic transformations.

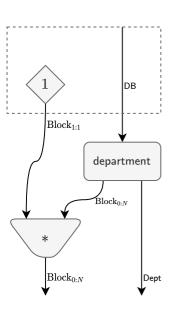
Queries: Example

List all departments.

department

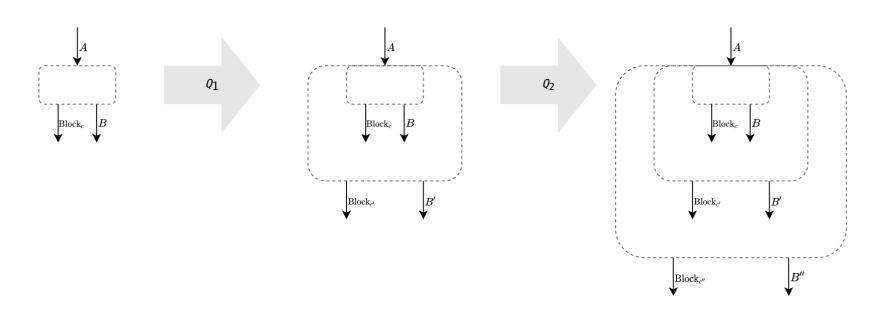


 ${\tt department}$



Query Composition

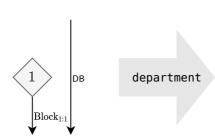
 $Q_1.Q_2$

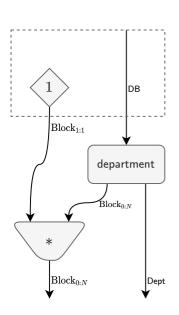


Query Composition: Example

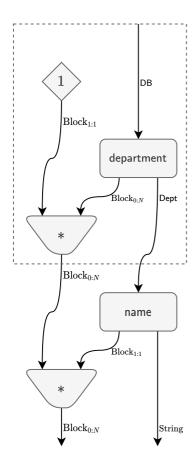
List the names of all departments.

department.name





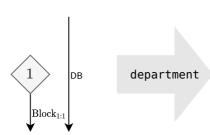
name

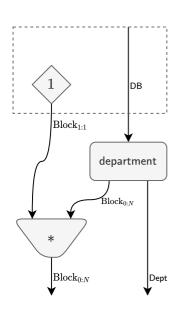


Counting Example

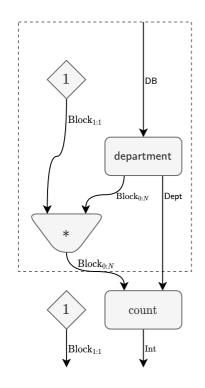
Show the number of departments.

count(department)



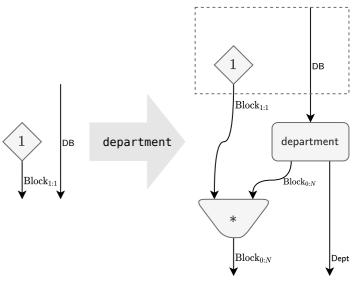


count(_)



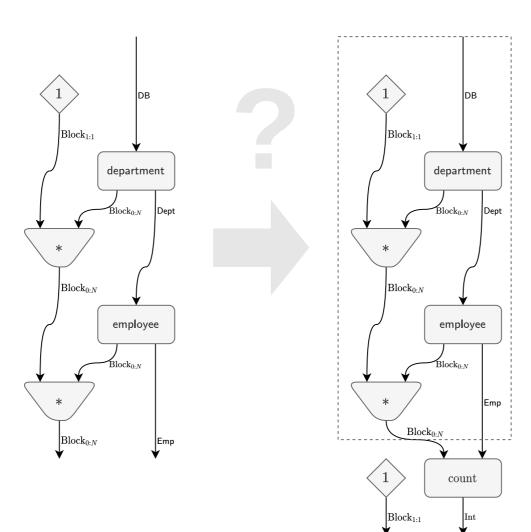
Show the number of employees in each department.

department.count(employee)



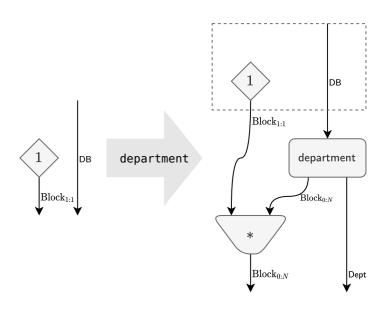
DB $Block_{1:1}$ department $\mathrm{Block}_{0:N}$ Dept $\mathrm{Block}_{0:N}$ employee $\mathrm{Block}_{0:N}$ $\mathrm{Block}_{0:N}$ Emp

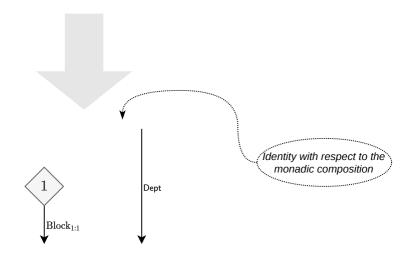
employee

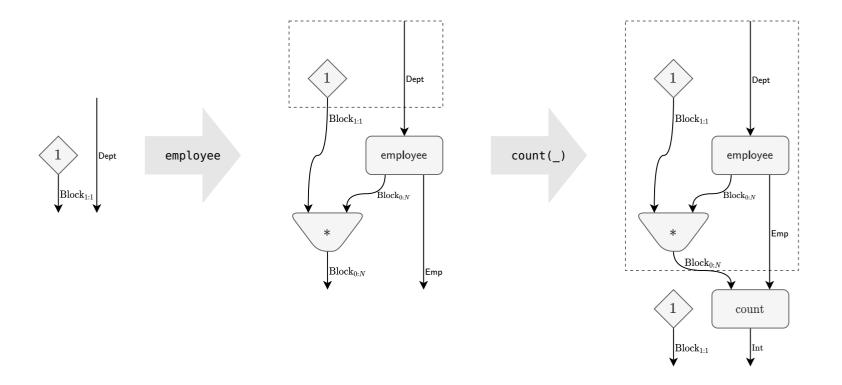


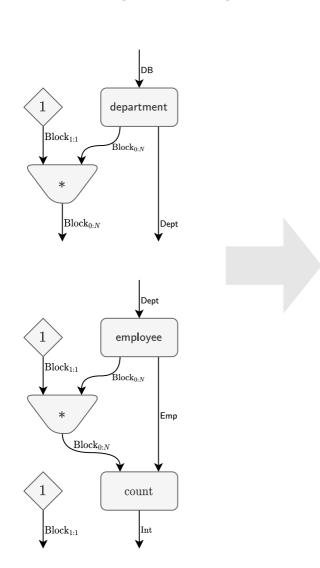
Show the total number of employees across all departments.

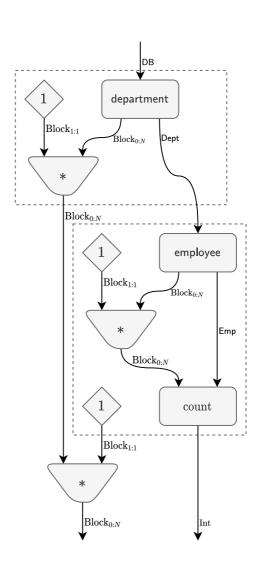
count(department.employee)











Show the number of employees in each department.

department.count(employee)