

Queries



Queries extend monadic transformations.

Queries: Example

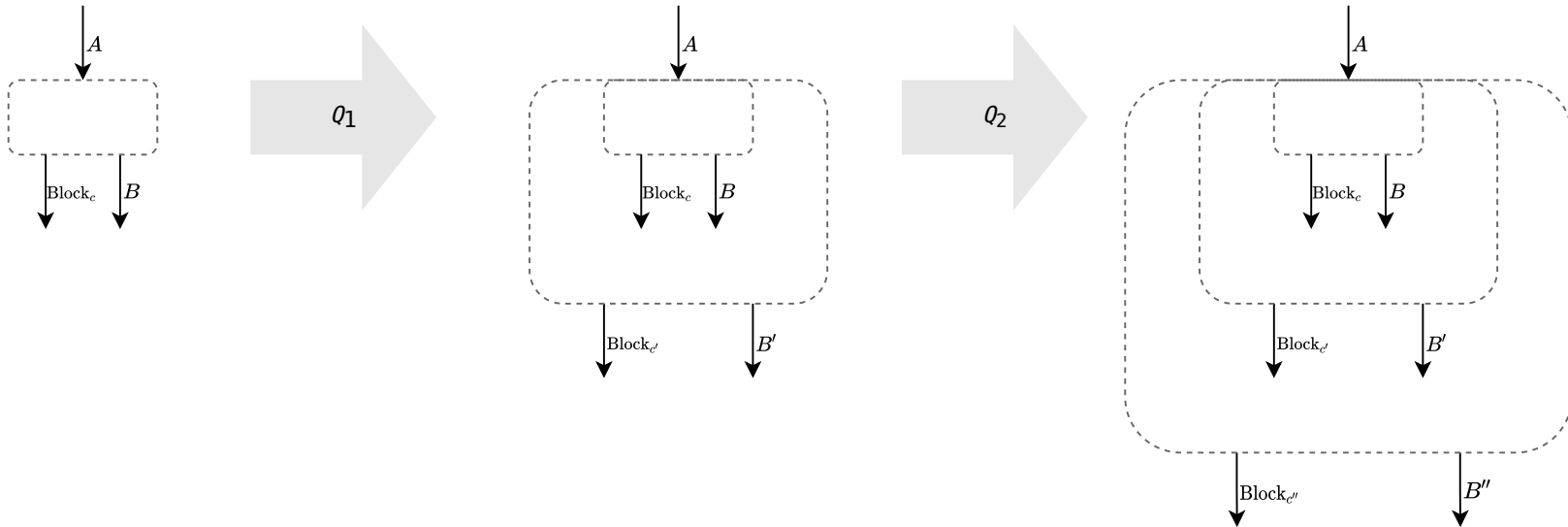
List all departments.

department



Query Composition

$Q_1 \cdot Q_2$



Query Composition: Example

List the names of all departments.

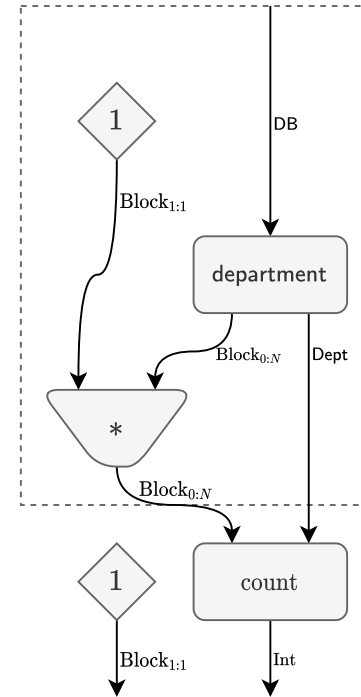
department.name



Counting Example

Show the number of departments.

`count(department)`



Counting Challenge 1

Show the number of employees
in each department.

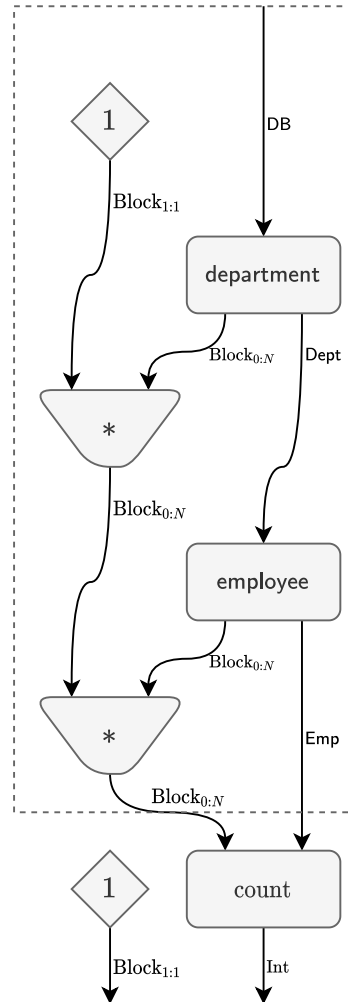
`department.count(employee)`



```

graph TD
    1{1} -- Block_{1:1} --> J1{*}
    J1 -- Block_{0:N} --> O1[Block_{0:N}]
    DB[DB] --> D[department]
    D -- Block_{0:N} --> J2{*}
    J2 --> E[employee]
    E -- Block_{0:N} --> J3{*}
    J3 -- Block_{0:N} --> O2[Block_{0:N}]
    E --> O3[Emp]

```



```
count(department.employee)
```

Counting Challenge 3



Counting Challenge 4



Counting Challenge 5



*Show the number of employees
in each department.*

`department.count(employee)`