Interactive / complex / 3

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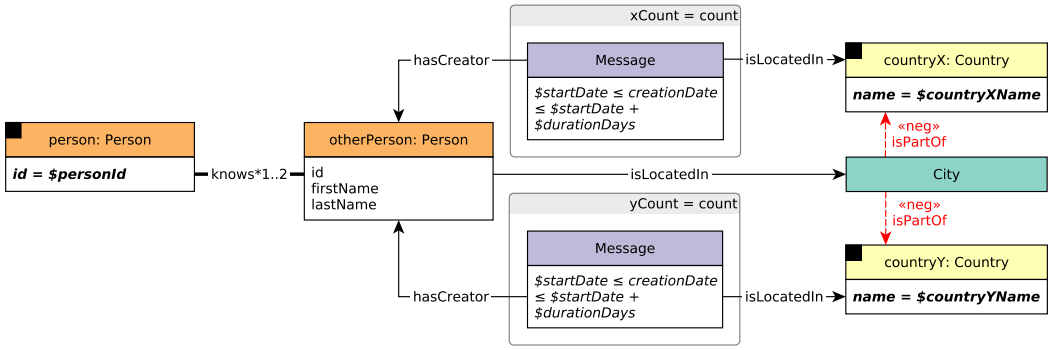
query	Interactive / complex / 3
title	Friends and friends of friends that have been to given countries
pattern	
desc.	Given a start Person, find Persons that are their friends and friends of friends (excluding start Person) that have made Posts / Comments in both of the given Countries, `CountryX` and `CountryY`, within a given period. Only Persons that are foreign to Countries `CountryX` and `CountryY` are considered, that is Persons whose location is neither `CountryX` nor `CountryY`.

params

1	personId	ID	
2	countryXName	String	
3	countryYName	String	
4	startDate	Date	Beginning of requested period
5	durationDays	32-bit Integer	Duration of requested period, in days. The interval `[startDate, startDate + durationDays)` is closed-open

result

1	otherPerson.id	ID	R	
2	otherPerson.firstName	String	R	
3	otherPerson.lastName	String	R	
4	xCount	32-bit Integer	A	Number of Messages from Country `CountryX` created by the Person within the given time
5	yCount	32-bit Integer	A	Number of Messages from Country `CountryY` created by the Person within the given time
6	count	32-bit Integer	A	`count = xCount + yCount`

sort

1	count	↓
2	otherPerson.id	↑

limit	20
CPs	2.1, 3.1, 5.1, 8.2, 8.5
relevance	This query looks for paths of length two and three, starting from a Person, going to friends or friends of friends, and then moving to Messages. This query tests the ability of the query optimizer to select the most efficient join ordering, which will depend on the cardinalities of the intermediate results. Many friends of friends can be duplicate, then it is expected to eliminate duplicates and those people prior to access the Post and Comments, as well as eliminate those friends from Countries `CountryX` and `CountryY`, as the size of the intermediate results can be severely affected. A possible structural optimization could be to materialize the number of Posts and Comments created by a Person, and progressively filter those people that could not even fall in the top 20 even having all their posts in the Countries `CountryX` and `CountryY`.