

Interactive / complex / 3

- IC 1
- IC 2
- IC 3
- IC 4
- IC 5
- IC 6
- IC 7
- IC 8
- IC 9
- IC 10
- IC 11
- IC 12
- IC 13
- IC 14v1
- IC 14v2

query	Interactive / complex / 3																																
title	Friends and friends of friends that have been to given countries																																
pattern	<p>The diagram illustrates the query pattern. It starts with a person: Person entity (orange box) with attribute <code>id = \$personId</code>. This person knows*1..2 otherPerson: Person entities (orange boxes) with attributes <code>id</code>, <code>firstName</code>, and <code>lastName</code>. Each otherPerson has hasCreator relationships with Message entities (purple boxes). The top Message entity has a filter <code>xCount = count</code> and a condition <code>\$startDate ≤ creationDate < \$startDate + \$durationDays</code>. The bottom Message entity has a filter <code>yCount = count</code> and a condition <code>\$startDate ≤ creationDate < \$startDate + \$durationDays</code>. Both Message entities are isLocatedIn (green arrow) Country entities (yellow boxes). The top Country is named <code>name = \$countryXName</code> and the bottom is named <code>name = \$countryYName</code>. Both Country entities are isPartOf (red dashed arrow) a City entity (green box). The City entity has a «neg» isPartOf relationship (red dashed arrow) with the bottom Country.</p>																																
description	<p>Given a start Person with ID <code>\$personId</code>, find Persons that are their friends and friends of friends (excluding the start Person) that have made Posts / Comments in both of the given Countries (named <code>\$countryXName</code> and <code>\$countryYName</code>), within <code>[\$startDate, \$startDate + \$durationDays)</code> (closed-open interval). Only Persons that are foreign to these Countries are considered, that is Persons whose location Country is neither named <code>\$countryXName</code> nor <code>\$countryYName</code>.</p>																																
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CPs	2.1, 3.1, 5.1, 8.2, 8.5																																
relevance	<p>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 named <code>\$countryXName</code> and <code>\$countryYName</code>, 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 named <code>\$countryXName</code> and <code>\$countryYName</code>.</p>																																