

BI / read / 15

query	BI / read / 15				
title	Trusted connection paths through forums created in a given timeframe				
pattern	<div><div><p>Enumerate all unweighted shortest paths on knows edges between person1 to person2.</p><div><div>person1: Person</div><div>id = \$person1Id</div></div><div>knows*</div><div><div>person2: Person</div><div>id = \$person2Id</div></div></div></div> <div><p>For each knows edge in the path, calculate a weight based on interactions between the pair of Persons of the edge, calculated as a sum of cases #1 and #2 for the Persons (both ways), and the sum of these weights determine the total weight of each path.</p><div><div>p1</div><div>knows</div><div>pX</div><div>knows</div><div>pY</div><div>...</div><div>pW</div><div>knows</div><div>p2</div></div></div> <div><p>Case 1: Replies on Posts, weight += 1.0 × count(c)</p><div><div><div>personA: Person</div><div>hasCreator</div><div>c: Comment</div></div><div>knows</div><div><div>personB: Person</div><div>hasCreator</div><div>post: Post</div></div><div>replyOf</div><div><div>forum: Forum</div><div>creationDate in [\$startDate, \$endDate]</div></div><div>containerOf</div></div></div> <div><p>Case 2: Replies on Comments, weight += 0.5 × count(c1)</p><div><div><div>personA: Person</div><div>hasCreator</div><div>c1: Comment</div></div><div>knows</div><div><div>personB: Person</div><div>hasCreator</div><div>c2: Comment</div></div><div>replyOf</div><div><div>Post</div><div>replyOf*</div><div>forum: Forum</div><div>creationDate in [\$startDate, \$endDate]</div></div><div>containerOf</div></div></div>				
desc.	<p>Given two Persons, find all (unweighted) shortest paths between these two Persons, in the subgraph induced by the knows relationship.</p> <p>Then, for each path calculate a weight. The nodes in the path are Persons, and the weight of a path is the sum of weights between every pair of consecutive Person nodes in the path.</p> <p>The weight for a pair of Persons is calculated based on their interactions:</p> <ul style="list-style-type: none">• Every direct reply (by one of the Persons) to a Post (by the other Person) contributes 1.0.• Every direct reply (by one of the Persons) to a Comment (by the other Person) contributes 0.5. <p>Only consider Messages that were created in a Forum that was created within the timeframe (interval) [startDate, endDate]. Note that for Comments, the containing Forum is that of the Post that the comment (transitively) replies to. Also note that interactions are counted both ways.</p> <p>Return all paths with the Person IDs ordered by their weights descending.</p>				
params	<div><div>1</div><div>person1Id</div><div>ID</div><div>(A) person1Id – person2Id pair with a distance of exactly 4 hops (B) person1Id – person2Id pair with a distance of exactly 2 hops</div></div> <div><div>2</div><div>person2Id</div><div>ID</div><div></div></div> <div><div>3</div><div>startDate</div><div>Date</div><div>(A) Small interval (approx. one week) (B) Big interval (approx. one month)</div></div> <div><div>4</div><div>endDate</div><div>Date</div><div></div></div>				
result	<div><div>1</div><div>person.id</div><div>[ID]</div><div>C</div><div>Ordered sequence of the Person IDs in the path</div></div> <div><div>2</div><div>weight</div><div>32-bit Float</div><div>C</div><div></div></div>				
sort	<div><div>1</div><div>weight</div><div>↓</div><div>The order of paths with the same weight is unspecified</div></div> <div><div>2</div><div>personIds</div><div>↑</div><div>The IDs in the paths are used for lexicographical sorting</div></div>				
limit	n/a				
CPs	1.2, 2.1, 2.2, 2.4, 3.3, 5.1, 5.3, 7.2, 7.3, 7.5, 7.7, 8.1, 8.2, 8.3, 8.4, 8.5, 8.6				