

BI / read / 25

query	BI / read / 25				
title	Trusted connection paths through forums created in a given timeframe				
pattern	<div><div>Enumerate all shortest paths on knows edges from person1 to person2.</div><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>For each edge on the path, calculate a weight based on interactions between the pair of Persons of the edge, are 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.</div><div>p1 — knows — pX — knows — pY — ... — pW — knows — p2</div></div> <div><div>case 1: Replies on Posts, weight += 1.0 * count(c)</div><div><div>personA: Person</div><div>hasCreator ↑</div><div>c: Comment</div><div>— knows —</div><div>personB: Person</div><div>hasCreator ↑</div><div>post: Post</div><div>— replyOf —</div><div>forum: Forum</div><div>containerOf ↑</div><div>\$start <= creationDate & creationDate <= \$end</div></div></div> <div><div>case 2: Replies on Comments, weight += 0.5 * count(c1)</div><div><div>personA: Person</div><div>hasCreator ↑</div><div>c1: Comment</div><div>— knows —</div><div>personB: Person</div><div>hasCreator ↑</div><div>c2: Comment</div><div>— replyOf —</div><div>Post</div><div>— replyOf* —</div><div>forum: Forum</div><div>containerOf ↑</div><div>\$start <= creationDate & creationDate <= \$end</div></div></div>				
desc.	<p>Given two Persons, find all (unweighted) shortest paths between these two Persons, in the sub-graph 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 [startDate, endDate]. Note that for Comments, the containing Forum is that of the Post that the comment (transitively) replies to.</p> <p>Return all paths with the Person ids ordered by their weights descending.</p>				
params	1	person1Id	64-bit Integer		
	2	person2Id	64-bit Integer		
	3	startDate	Date		
	4	endDate	Date		
result	1	person.id	64-bit Integer[]	R	Identifiers representing an ordered sequence of the Persons in the path weight
	2	weight	64-bit Double	R	
sort	1	weight	↓	The order of paths with the same weight is unspecified	
	2	personIds	↑	The ids in the paths are used for lexicographical sorting	
CPs	1.2, 2.1, 2.2, 2.4, 3.3, 5.1, 5.3, 7.2, 7.3, 8.1, 8.2, 8.3, 8.4, 8.5, 8.6				