

BI / read / 8

query	BI / read / 8				
title	Central person for a tag				
pattern	<div><p>For each person with a matching hasInterest and/or hasCreator edge, compute person.score = ((if hasInterest edge exists then 100 else 0) + count(message))</p><p>Calculate the sum of the friends' scores: friendsScore = sum(friend.score)</p><p>Detailed description: The diagram illustrates a graph query pattern. It features three main node types: Tag (pink), person: Person (orange), and message: Message (purple). A Tag node has a filter 'name = \$tag'. A person: Person node has a filter 'id'. A message: Message node has a filter '\$date < creationDate'. Edges include: 'hasTag' from message to Tag; 'hasInterest' (optional, dashed) from person to Tag; 'hasCreator' (optional, dashed) from person to message; and 'knows' (optional, dashed) from person to friend: Person. Aggregations are shown as dashed arrows: 'count' from message to Tag, and 'sum' from friend to person.</p></div>				
desc.	<p>Given a Tag, find all Persons that are interested in the Tag and/or have written a Message (Post or Comment) with a creationDate after a given date and that has a given Tag. For each Person, compute the score as the sum of the following two aspects:</p> <ul style="list-style-type: none">• 100, if the Person has this Tag as their interest, or 0 otherwise• number of Messages by this Person with the given Tag <p>Also, for each Person, compute the sum of the score of the Person’s friends (friendsScore).</p>				
params	<div><div>1</div><div>tag</div></div>	<div><div>Long String</div></div>	<div>Tags with a similar amount of Messages are selected</div>		
	<div><div>2</div><div>date</div></div>	<div><div>Date</div></div>	<div>Dates from around the same day are selected. (TODO - how exactly? what distribution?)</div>		
result	<div><div>1</div><div>person.id</div></div>	<div><div>ID</div></div>	<div><div>R</div></div>		
	<div><div>2</div><div>score</div></div>	<div><div>32-bit Integer</div></div>	<div><div>A</div></div>		
	<div><div>3</div><div>friendsScore</div></div>	<div><div>32-bit Integer</div></div>	<div><div>A</div></div>	<div>The sum of the score of the person’s friends</div>	
sort	<div><div>1</div><div>score + friendsScore</div></div>	<div><div>↓</div></div>			
	<div><div>2</div><div>person.id</div></div>	<div><div>↑</div></div>			
limit	100				
CPs	1.2, 2.1, 2.3, 3.2, 5.3, 8.2, 8.4, 8.5				
relevance	<p>Similarly to BI 16, there are two major ways to compute this query: (1) creating an induced subgraph of the interested Persons and their friends and performing the scoring on this graph or (2) performing the scoring without creating an induced subgraph and scoring the friends of a Person on-the-fly. The first approach is more efficient as it avoids redundant computations, however, specifying it needs support for composable graph queries.</p>				