

## BI / read / 20

query	BI / read / 20				
title	Recruitment				
pattern	<div><div><div><div>company: Company</div><div>name = \$company</div></div><div>workAt</div><div><div>person1: Person</div><div>≠ person2</div></div><div>compute weighted shortest path on knows.weight</div><div><div>person2: Person</div><div>id = \$person2Id</div></div></div><div><div>knows.weight: min(abs(saA.classYear - saB.classYear)) + 1</div><div><div>personA: Person</div><div>saA: studyAt</div><div>knows</div><div>personB: Person</div><div>saB: studyAt</div><div>University</div></div></div></div>				
desc.	<p>Given a Company company and a Person person2 (who is not working and has not worked at company), find a different Person (person1) who works or at some point worked in company and is reachable by from person2 through people who have studied together. On this path, we only consider edges between Persons who know each other and attended the same University and set the weight of the edge to the absolute difference between the year of enrolment plus 1 (<code>studyAt.classYear + 1</code>). If the Persons attended multiple universities, we select the smallest (<code>min</code>) value.</p> <p>If there are multiple Person person1 nodes with the same shortest path, return all of them.</p>				
params	<div><div>1</div><div>company</div><div>Long String</div><div>Companies with a similar number of employees (former or current) are selected</div></div> <div><div>2</div><div>person2Id</div><div>ID</div><div>person2 is selected so that there is no direct (1-hop) path to any person1 working at company</div></div>				
result	<div><div>1</div><div>person1.id</div><div>ID</div><div>R</div><div></div></div> <div><div>2</div><div>totalWeight</div><div>64-bit Integer</div><div>C</div><div></div></div>				
sort	<div><div>1</div><div>totalWeight</div><div>↑</div><div></div></div> <div><div>2</div><div>person1.id</div><div>↑</div><div></div></div>				
limit	20				
CPs	3.3, 7.6, 7.7, 8.4, 8.6				
relevance	<p>Implementations can either pre-compute edge weights or compute them on-the-fly. To find the (weighted) shortest path efficiently, can use e.g. a bidirectional Dijkstra algorithm.</p>				