

## Interactive / complex / 11

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 14

query	Interactive / complex / 11																													
title	Job referral																													
pattern	<div><div><div>person: Person</div><div><i>id = \$personId</i></div></div><div>— knows*1..2 —&gt;</div><div><div>otherPerson: Person</div><div>id firstName lastName</div></div><div>workAt year(workFrom) &lt; \$year</div><div><div>company: Company</div><div>name</div></div><div>isLocatedIn</div><div><div>country: Country</div><div><i>name = \$name</i></div></div></div>																													
desc.	Given a start Person, find that Person’s friends and friends of friends (excluding start Person) who started working in some Company in a given Country, before a given date (year).																													
params	<table><tr><td>1</td><td>personId</td><td>ID</td><td></td></tr><tr><td>2</td><td>countryName</td><td>String</td><td></td></tr><tr><td>3</td><td>workFromYear</td><td>32-bit Integer</td><td></td></tr></table>					1	personId	ID		2	countryName	String		3	workFromYear	32-bit Integer														
1	personId	ID																												
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3	workFromYear	32-bit Integer																												
result	<table><tr><td>1</td><td>otherPerson.id</td><td>ID</td><td>R</td><td></td></tr><tr><td>2</td><td>otherPerson.firstName</td><td>String</td><td>R</td><td></td></tr><tr><td>3</td><td>otherPerson.lastName</td><td>String</td><td>R</td><td></td></tr><tr><td>4</td><td>company.name</td><td>String</td><td>R</td><td></td></tr><tr><td>5</td><td>workAt.workFrom</td><td>32-bit Integer</td><td>R</td><td></td></tr></table>					1	otherPerson.id	ID	R		2	otherPerson.firstName	String	R		3	otherPerson.lastName	String	R		4	company.name	String	R		5	workAt.workFrom	32-bit Integer	R	
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sort	<table><tr><td>1</td><td>workAt.workFrom</td><td>↑</td><td></td></tr><tr><td>2</td><td>otherPerson.id</td><td>↑</td><td></td></tr><tr><td>3</td><td>company.name</td><td>↓</td><td></td></tr></table>					1	workAt.workFrom	↑		2	otherPerson.id	↑		3	company.name	↓														
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3	company.name	↓																												
limit	10																													
CPs	1.3, 2.3, 2.4, 3.3, 4.2																													
relevance	This query looks for paths of length two or three, starting from a Person, moving to friends or friends of friends, and ending at a Company. In this query, there are selective joins and a top-k order by that can be exploited for optimizations.																													