

## Interactive / complex / 11

IC 1	query	Interactive / complex / 11			
IC 2	title	Job referral			
IC 3	pattern	<pre> graph TD     person["person: Person id = \$personId"] -- knows*1..2 --&gt; otherPerson["otherPerson: Person id firstName lastName"]     otherPerson -- "workAt year(workFrom) &lt; \$year" --&gt; company["company: Company name"]     company -- isLocatedIn --&gt; country["country: Country name = \$name"]           </pre>			
IC 4	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).			
IC 5	params	1	personId	ID	
IC 6		2	countryName	String	
IC 7		3	workFromYear	32-bit Integer	
IC 8	result	1	otherPerson.id	ID	R
IC 9		2	otherPerson.firstName	String	R
IC 10		3	otherPerson.lastName	String	R
IC 11		4	company.name	String	R
IC 12		5	workAt.workFrom	32-bit Integer	R
IC 13	sort	1	workAt.workFrom	↑	
IC 14		2	otherPerson.id	↑	
		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.			