

## Interactive / complex / 11

IC 1	query	Interactive / complex / 11				
IC 2	title	Job referral				
IC 3	pattern	<pre>graph TD     P1["person: Person id = \$personId"] -- "knows*1..2" --&gt; P2["otherPerson: Person id firstName lastName"]     P2 -- "workAt year(workFrom) &lt; \$year" --&gt; C["company: Company name"]     C -- "isLocatedIn" --&gt; CO["country: Country name = \$name"]</pre>				
IC 4						
IC 5						
IC 6						
IC 7						
IC 8						
IC 9						
IC 10	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 11	params	1	personId	ID		
IC 12		2	countryName	String		
IC 13		3	workFromYear	32-bit Integer		
IC 14	result	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	
	sort	1	workAt.workFrom	↑		
		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.				