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## Neo4j collection function error?

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I am running the following query that is meant to compare two collections nodes set1 and set2. All nodes in set2 are in set1, and I would like to identify all the nodes in set1 that are NOT in set2. However, the query returns a set of nodes that includes some of the nodes in set1. I am running this query on v2.1.7. Suggestions?

Query:

```
MATCH p=(a:ObjectConcept{sctid:233604007})<-[:ISA*]-(b:ObjectConcept)
with  nodes(p) as set1, p
MATCH q=(a:ObjectConcept{sctid:34020007})<-[:ISA*]-(b:ObjectConcept)
with  nodes(q) as set2,set1, p
WHERE ALL(x in set2 WHERE NOT x in set1)
with  nodes(p) as pneumo
UNWIND pneumo AS pneumolist
RETURN distinct pneumolist.FSN,pneumolist.sctid
```

Alternative query, same result: Query:

```
MATCH p=(a:ObjectConcept{sctid:233604007})<-[:ISA*]-(b:ObjectConcept)
with  nodes(p) as set1, p
MATCH q=(a:ObjectConcept{sctid:34020007})<-[:ISA*]-(b:ObjectConcept)
with  nodes(q) as set2,set1, p
WHERE NONE(x in set2 WHERE x in set1)
with  nodes(p) as pneumo
UNWIND pneumo AS pneumolist
RETURN distinct pneumolist.FSN,pneumolist.sctid
```

neo4j

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edited Apr 9 at 22:18          asked Apr 9 at 21:39
Michael Hunger              Scott Campbell
25.2k ● 2 ● 21 ● 41          16 ● 1

Thank you, Michael for the editorial corrections. I am not sure why my code formatting did not post correctly. Regarding the query issue, I have upgraded to Neo4j v2.2.0, but the problem remains with the query result. Why is this query not removing all nodes contained in set2 from those in set1? This query is precisely the same as that posted for a similar question on March 23, 2014 as posted on grokbase.com/t/gg/neo4j/143qx24hak/... – Scott Campbell Apr 10 at 14:09 ✎

you need a empty line before code blocks – Michael Hunger Apr 10 at 14:48

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## 2 Answers

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Your matches don't return just one row as you might expect but many rows, and your comparison is done between the cross product of those many row combinations. You probably want to create a set for each of your two subtrees first with a combination of `unwind + collect(distinct)`

The code below will not be as fast, as cypher internally doesn't have a `Set` concept yet.

try this

```
MATCH p=(a:ObjectConcept{sctid:233604007})<-[:ISA*]-(b:ObjectConcept)
unwind nodes(p) as n
with collect(distinct n) as set1
MATCH q=(a:ObjectConcept{sctid:34020007})<-[:ISA*]-(b:ObjectConcept)
unwind nodes(q) as m
with collect(distinct m) as set2
```

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```
WHERE NONE(x in set2 WHERE x in set1)
UNWIND set1 AS pneumolist
RETURN distinct pneumolist.FSN,pneumolist.sctid
```

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answered Apr 10 at 14:52

**Michael Hunger**
**25.2k** ● 2 ● 21 ● 41

1 Thanks, Michael. I came to a similar conclusion and used a REDUCE function. The query very fast. –
**Scott Campbell** Apr 10 at 18:28 ✎

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The following query was successful, and addresses Michael's discussion regarding cross products (above).

```
MATCH p=(a:ObjectConcept{sctid:233604007})<-[:ISA*]-(b:ObjectConcept)
with  distinct nodes(p) as set1
UNWIND set1 as x1
with collect(DISTINCT x1) as set11
MATCH q=(a:ObjectConcept{sctid:34020007})<-[:ISA*]-(b:ObjectConcept)
with  distinct nodes(q) as set2,set11
UNWIND set2 as x2
with collect(distinct x2) as set22,set11
with REDUCE(pneumo=[],x in set11|case when x in set22 then pneumo else pneumo
+ [x] END) AS pneumo
return pneumo
```

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answered Apr 10 at 18:32

**Scott Campbell**
**16** ● 1

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