DBMS Laboratory

UE19CS304

5th Semester, Academic Year 2021-22

Week #: 2 - Operation on Neo4j GraphDB

Date: 14/9/2021

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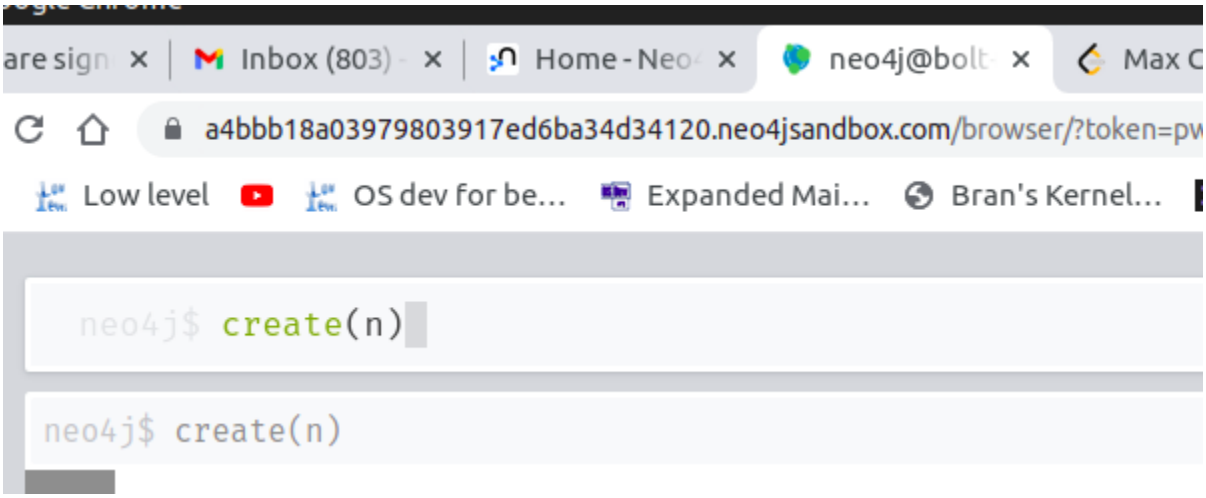
1. Create a single node

create (n)

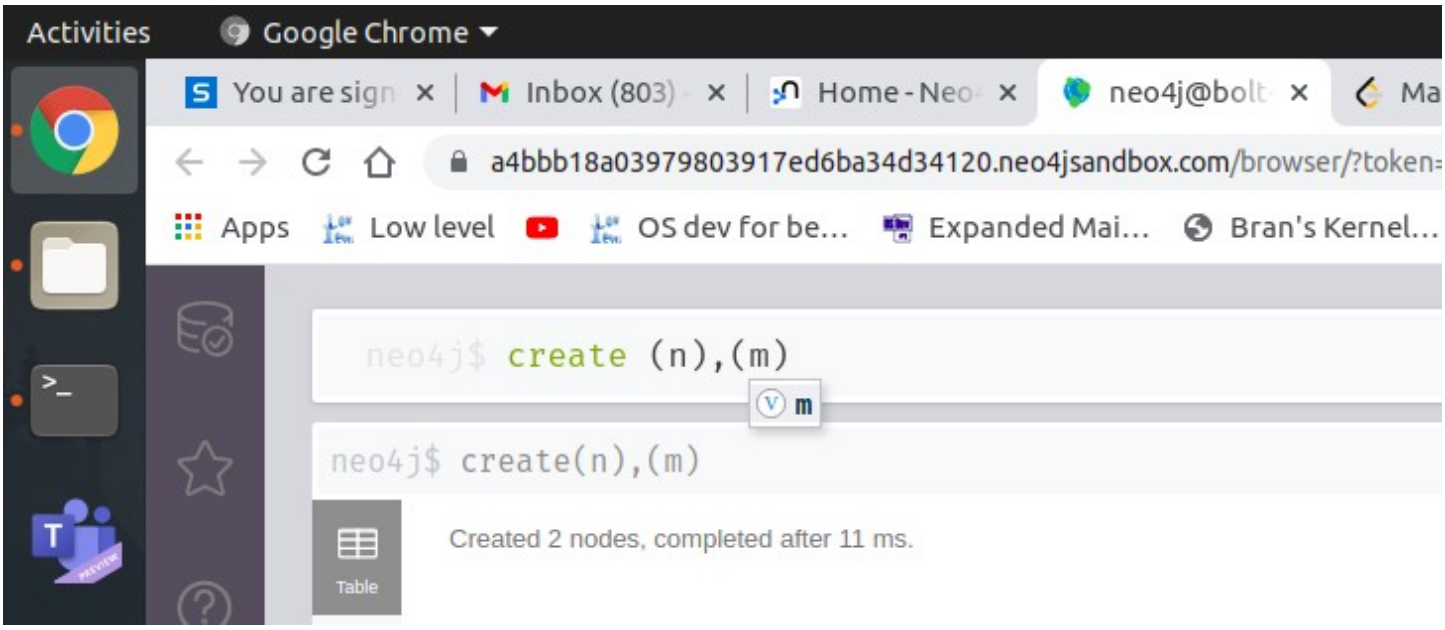
- Create a node with no props or labels



2. Create multiple nodes

create (n), (m)

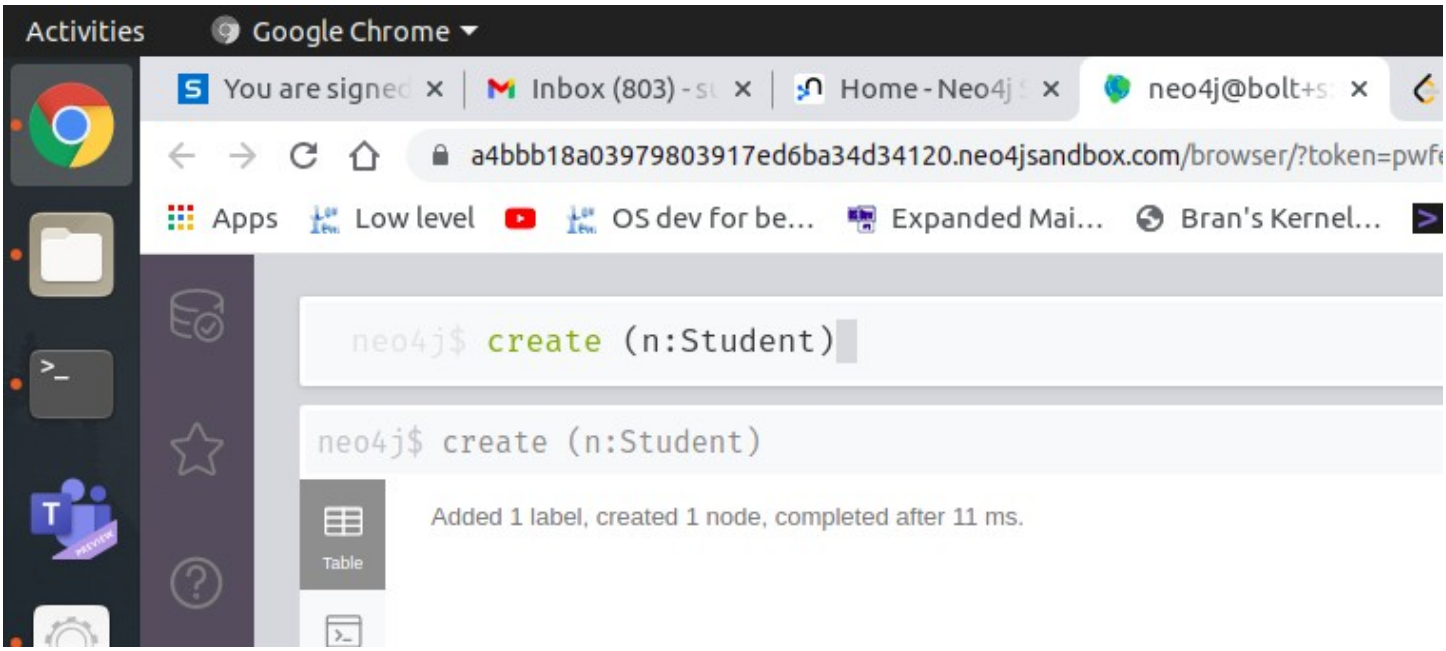
- Create multiple nodes with no labels or props



3. Create a node with label

create (n:Student)

- Create a node with Student label and no props



4. Create a node with label and properties

create (n:Student {name: “ABC”, SRN: “123”})

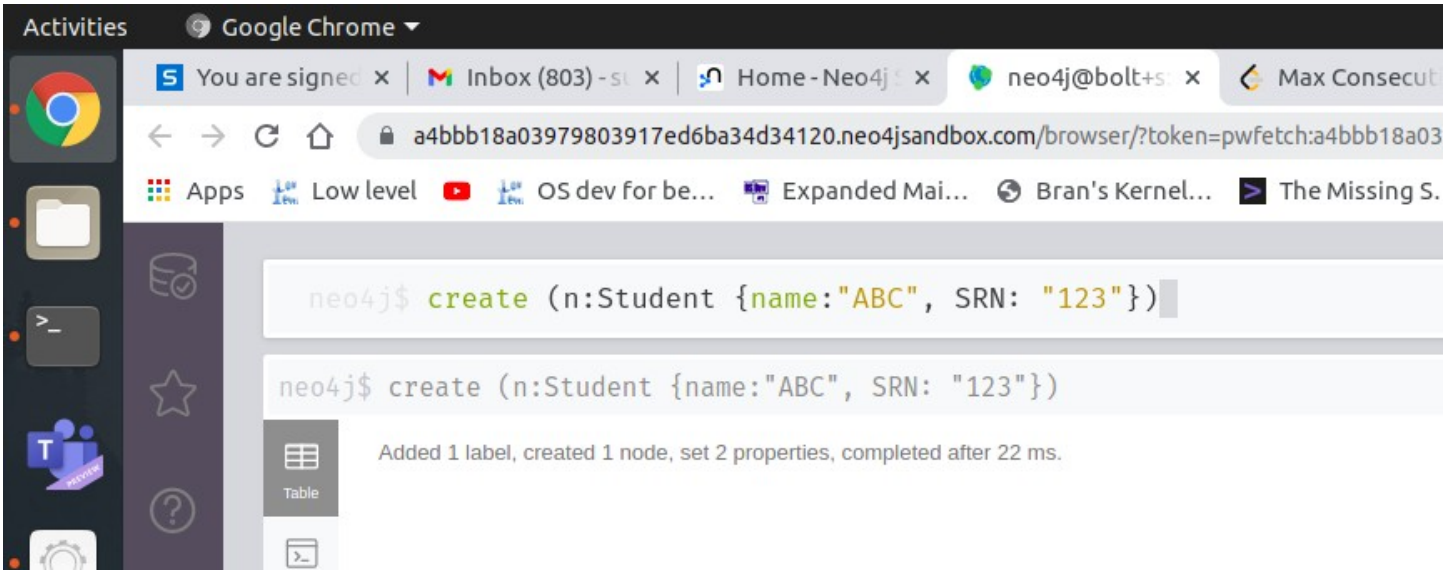
create (n:Student {name: “LMN”, SRN: “456”})

create (n:Student {name: “JHI”, SRN: “789”})

create (n:Teacher{name: “ZHA”, FID: “439”})

create (n:Teacher{name: “OPQ”, FID: “731”})

- Create 3 nodes with label Student and props name, SRN and 2 nodes with label Teacher with props name, FID.



Result:

5. Create relation between specific nodes

match (x:Teacher), (y:Student)

where x.name = “ZHA” and y.name = “JHI”

create (x)-[tea:teaches]->(y)

- Creates a “teaches” relationship between a teacher JHI and student ZHA.

```
1 match (x:Teacher), (y:Student)
2 where x.name = "ZHA" and y.name = "JHI"
3 create(x) -[te: teaches]→(y)
```

```
neo4j$ match (x:Teacher), (y:Student) where x.name = "ZHA" and y.name = "JHI" create(x) -[te: teaches]→(y)
```

Table

Created 1 relationship, completed after 18 ms.

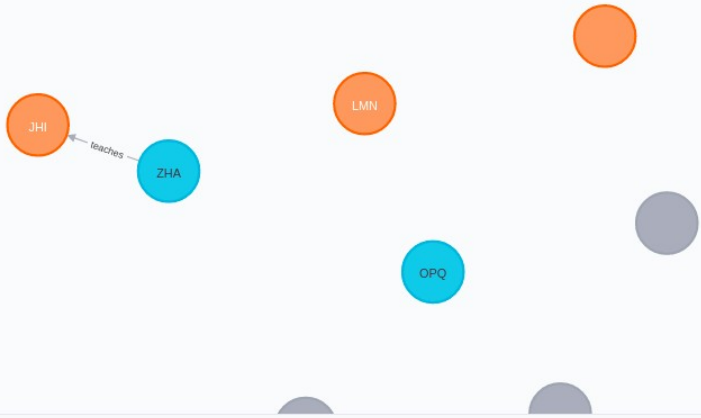
Result:

```
neo4j$
neo4j$ match(n) return n
```

Graph Table Text Code

*(6) Student(4) Teacher(2)

*(1) teaches(1)



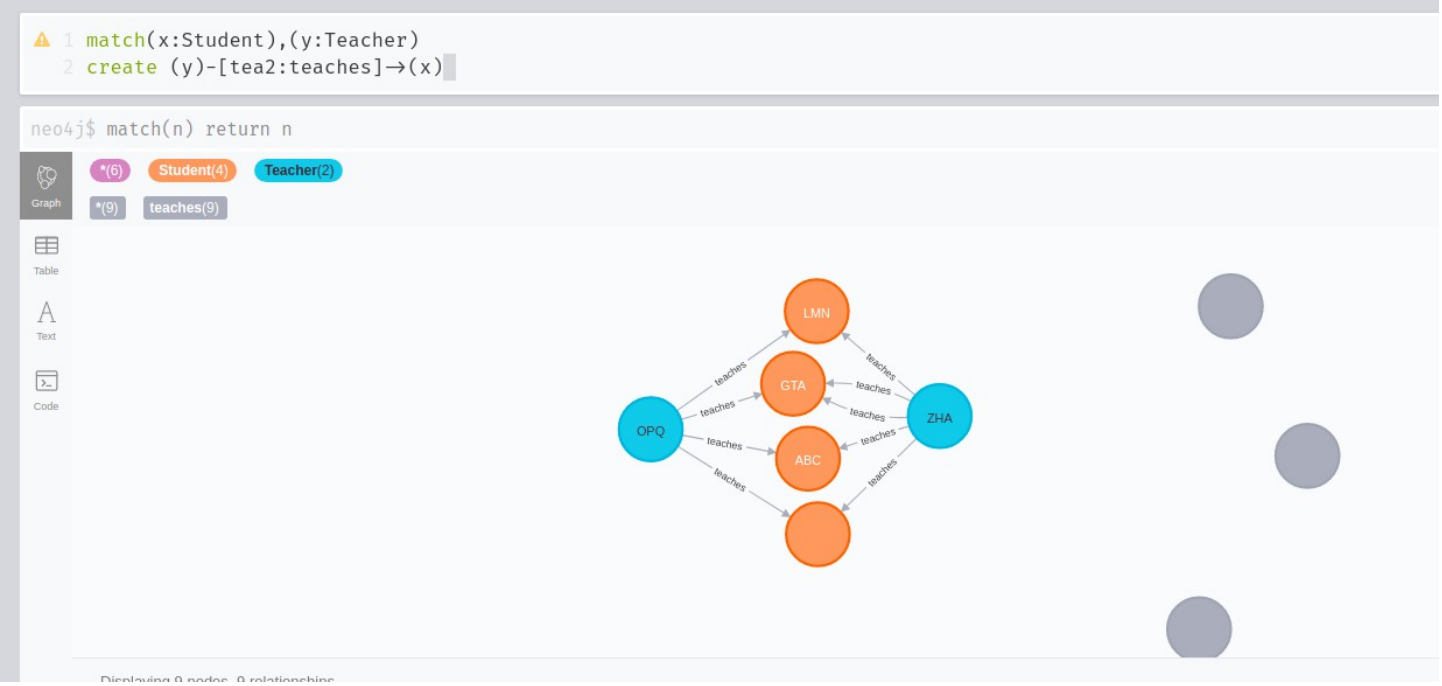
Displaying 9 nodes, 1 relationships.

6. Create relation between nodes

match(x:Student), (y:Teacher)

create (y)-[]->(x)

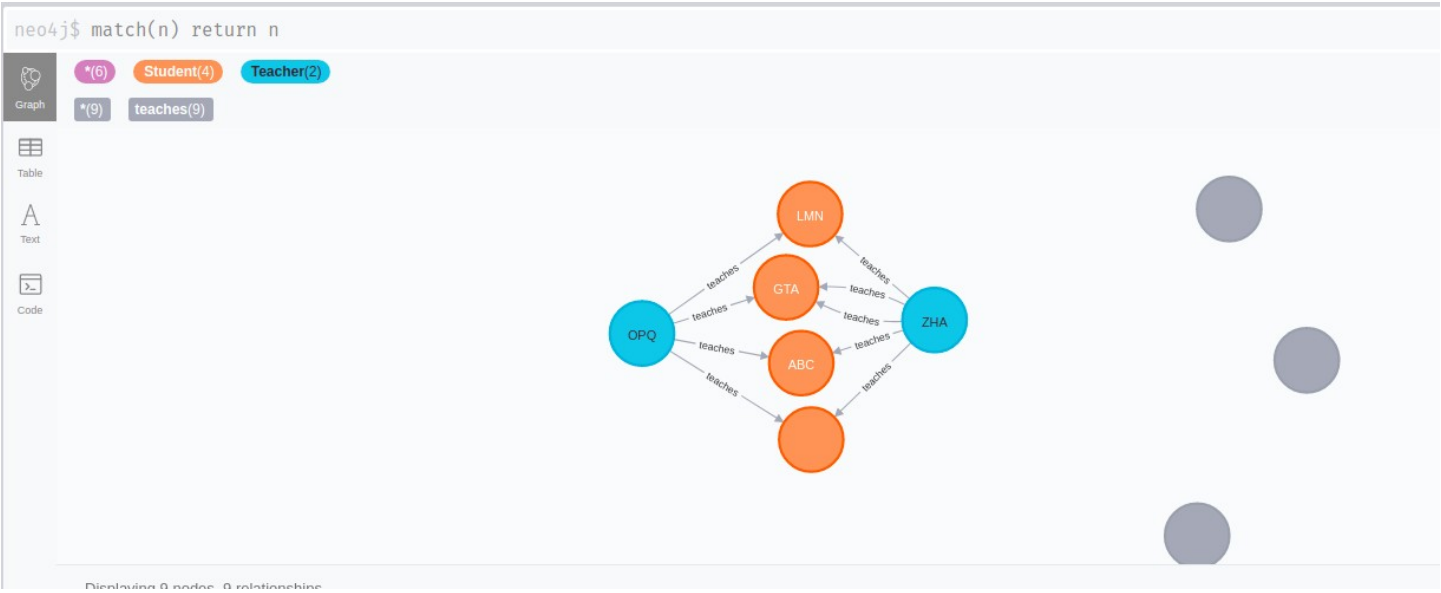
- Create a relationship between all Teacher and Student nodes as “teaches”



7. Display the graph

match(n) return n

- Displays all the nodes



8. Display specific nodes based on label and ids

match(n:Teacher) return n

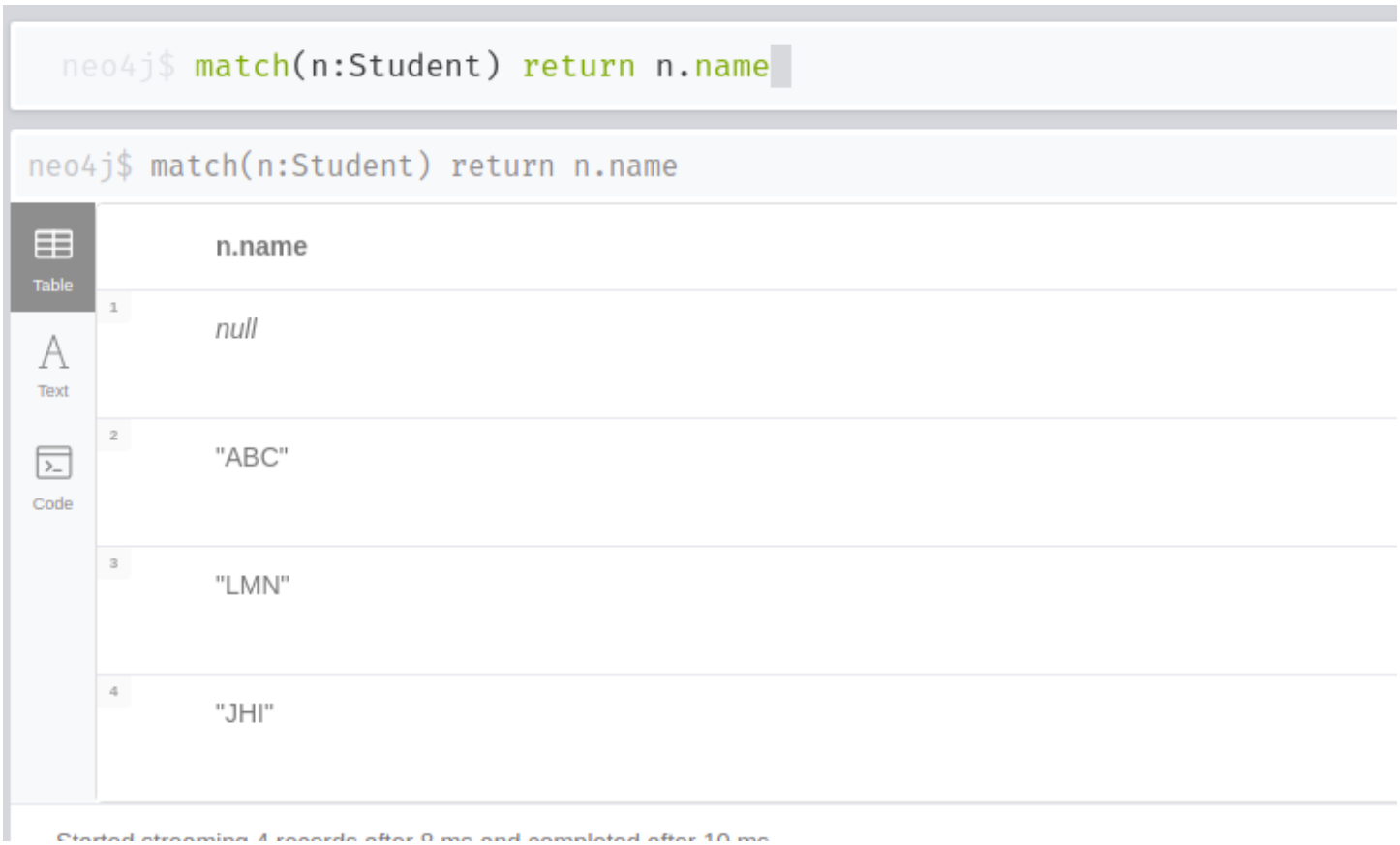
- Displays only the nodes with label Teacher

match(n:Teacher) where id(n) = 8 return n

- Displays the Teacher node with condition that id = 8

match(n:Student) return n.name

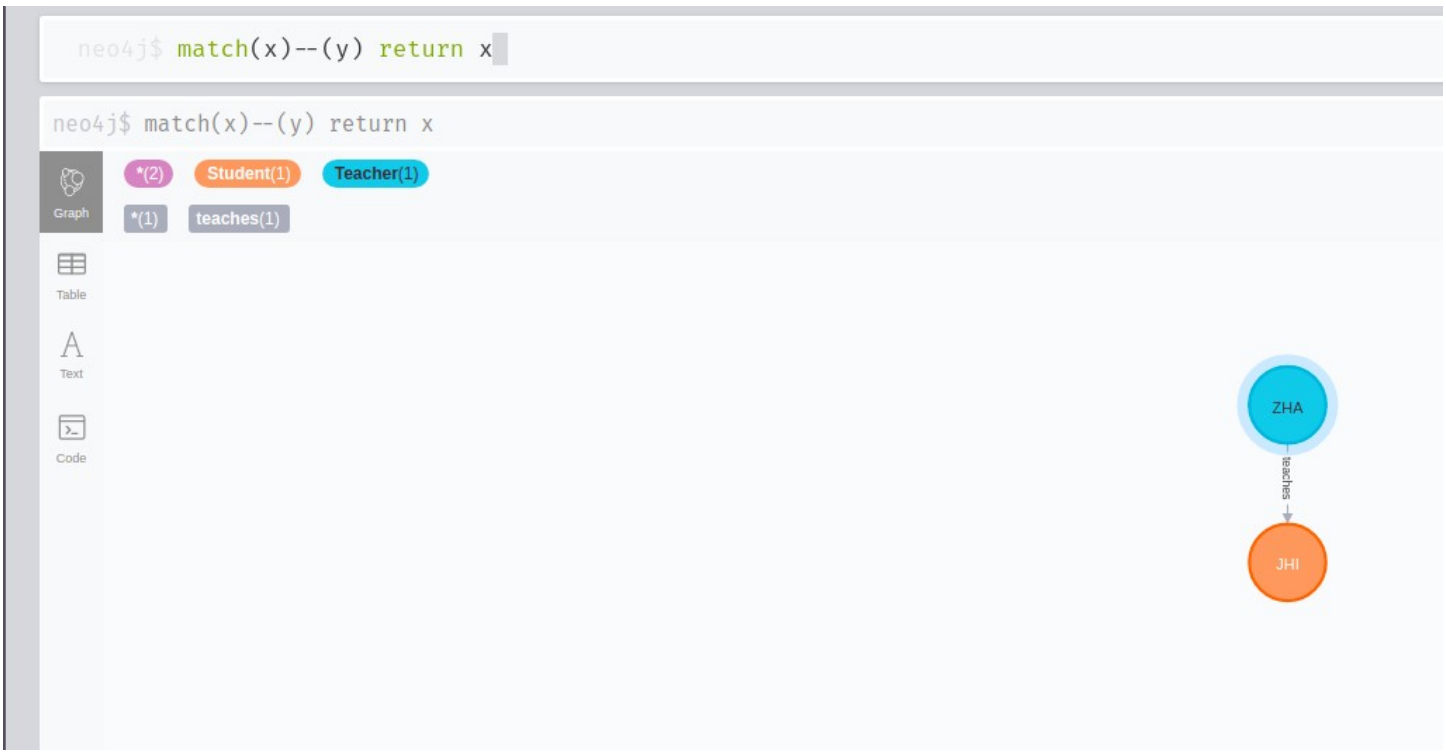
- Returns the name prop of all the Student labeled nodes.



9. Display Relationships

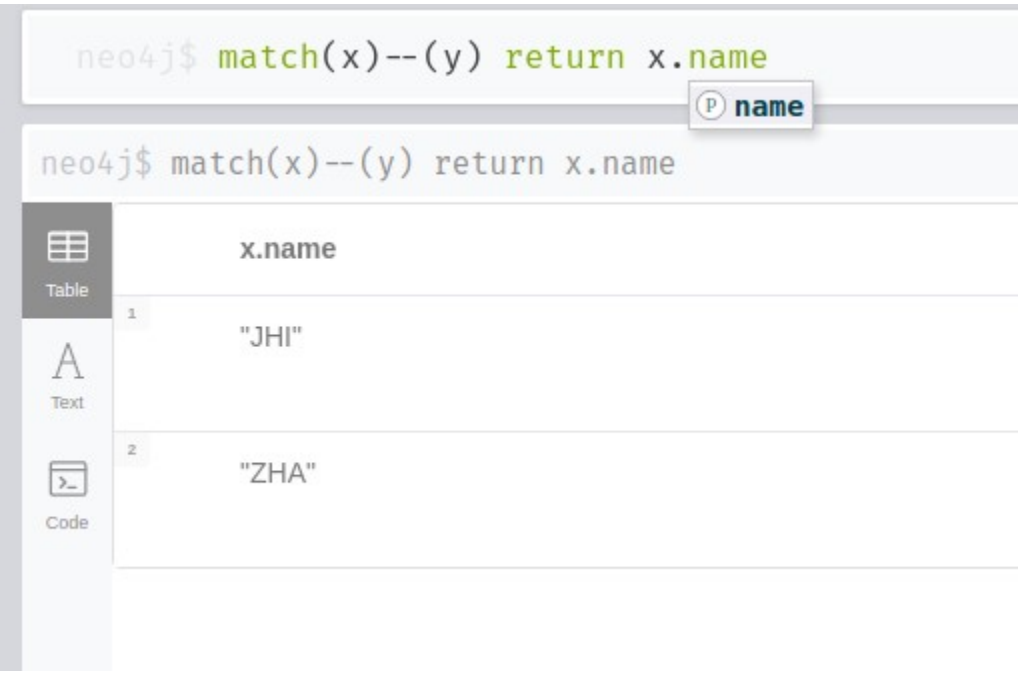
match(x)--(y) return x

- Return all the relationships in the db. The output showcases the output only when relationship was added.



match(x) -- (y) return x.name

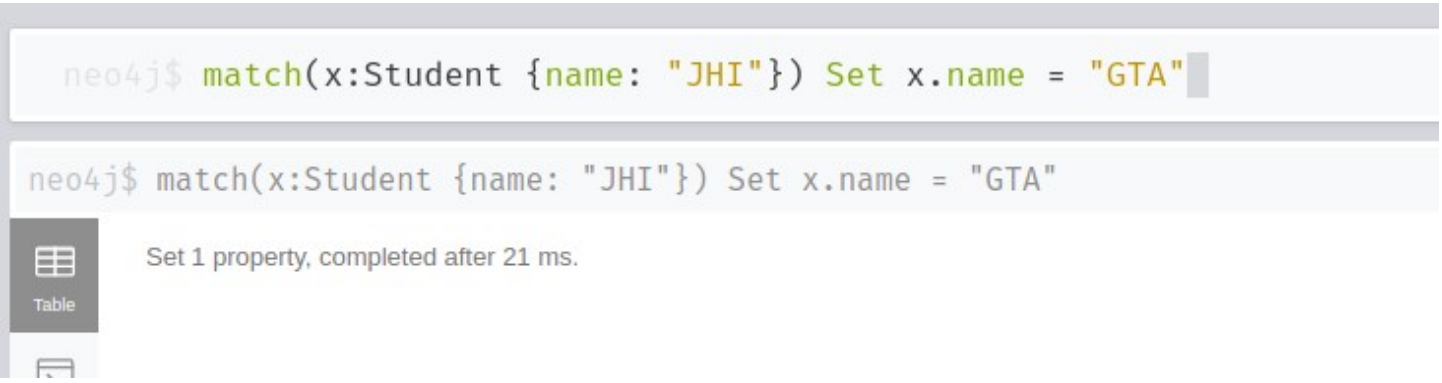
- Return the name prop of all the nodes who have a outgoing(In the example x is related to y implies x has a outgoing relationship and y has incoming relationship) relationships in the db. (The output showcases the output only when relationship was added.)



10. Update specific node

match(x:Student {name: "JHI"}) Set x.name = "GTA"

- Update the name prop of the Student node where name was originally JHI. (The output showcases the output only when relationship was added.)

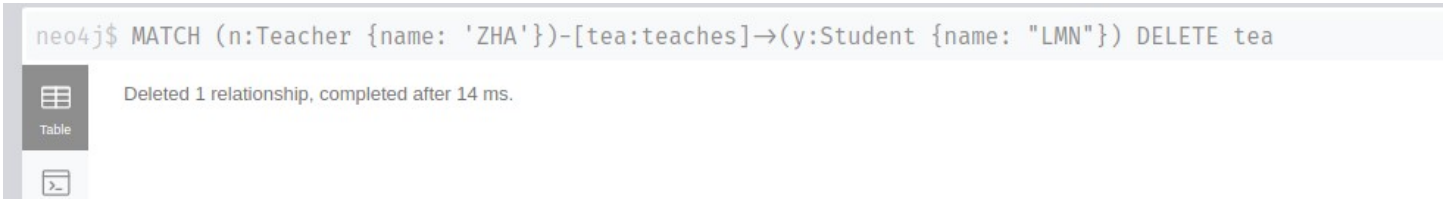


Result:

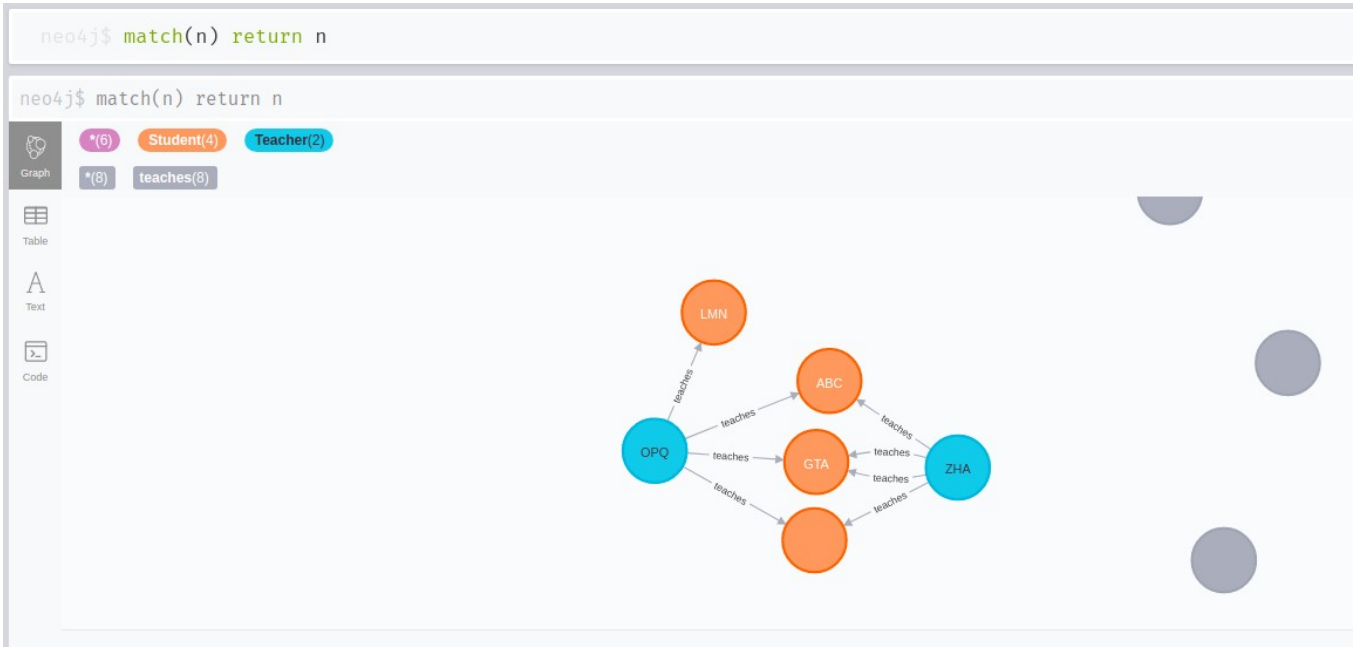
11. Delete certain relationship

match(n:Teacher {name: “ZHA”})-[tea:teaches]->(y:Student {name: “LMN”}) delete tea

- Delete the teaches relationship between Teacher node with name prop LMN and Student node with name prop LMN.



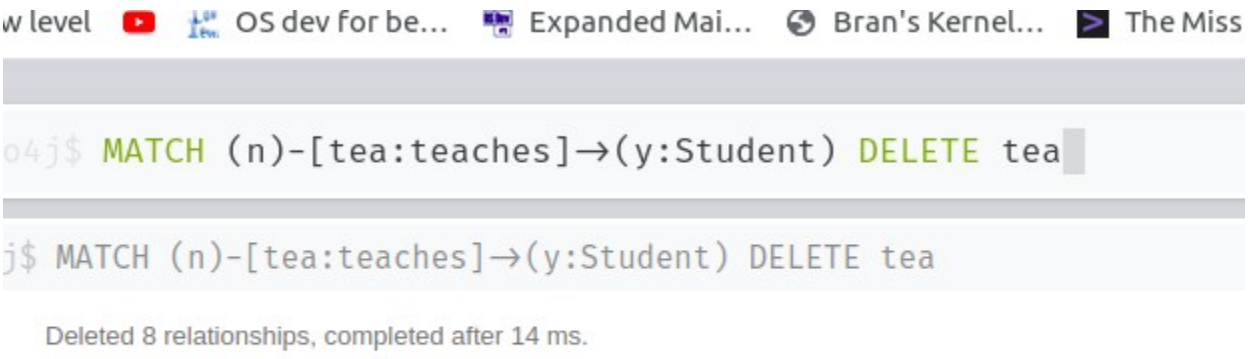
Result:



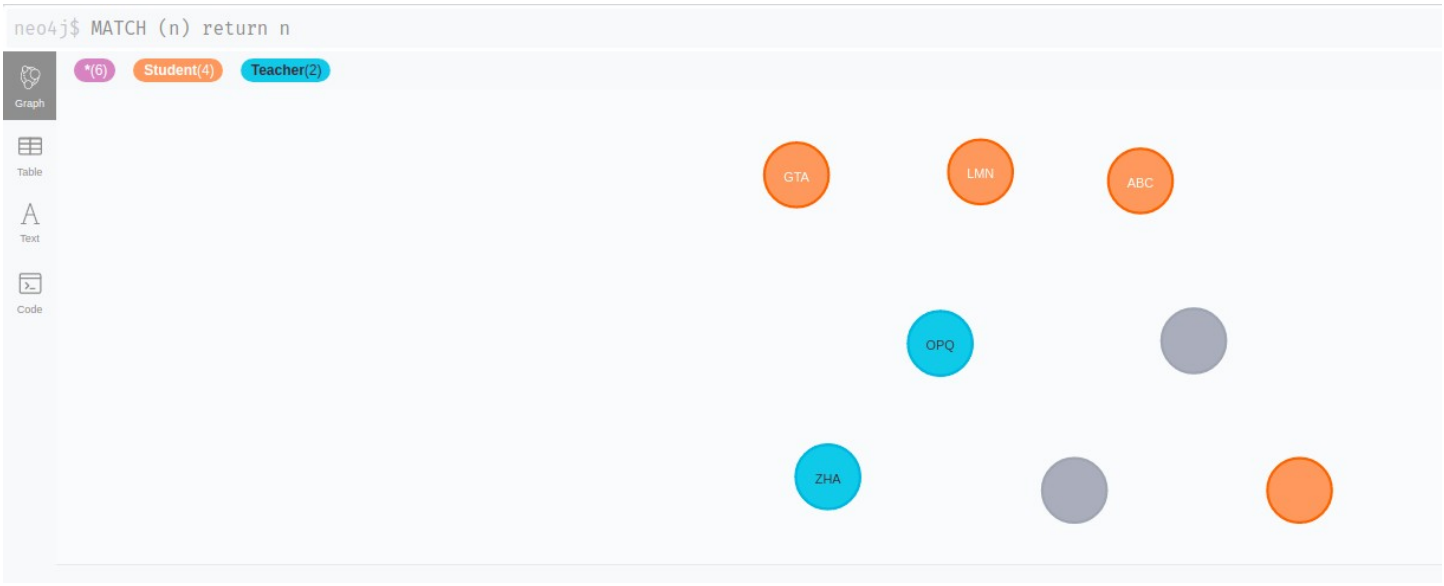
12. Delete all relationship

match (n)-[tea:teaches]->(y:Student) delete tea

- Deletes all the teaches relationship between any node to Student nodes.



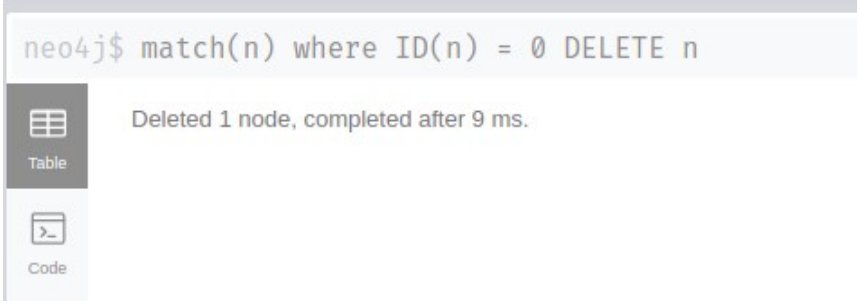
Result:



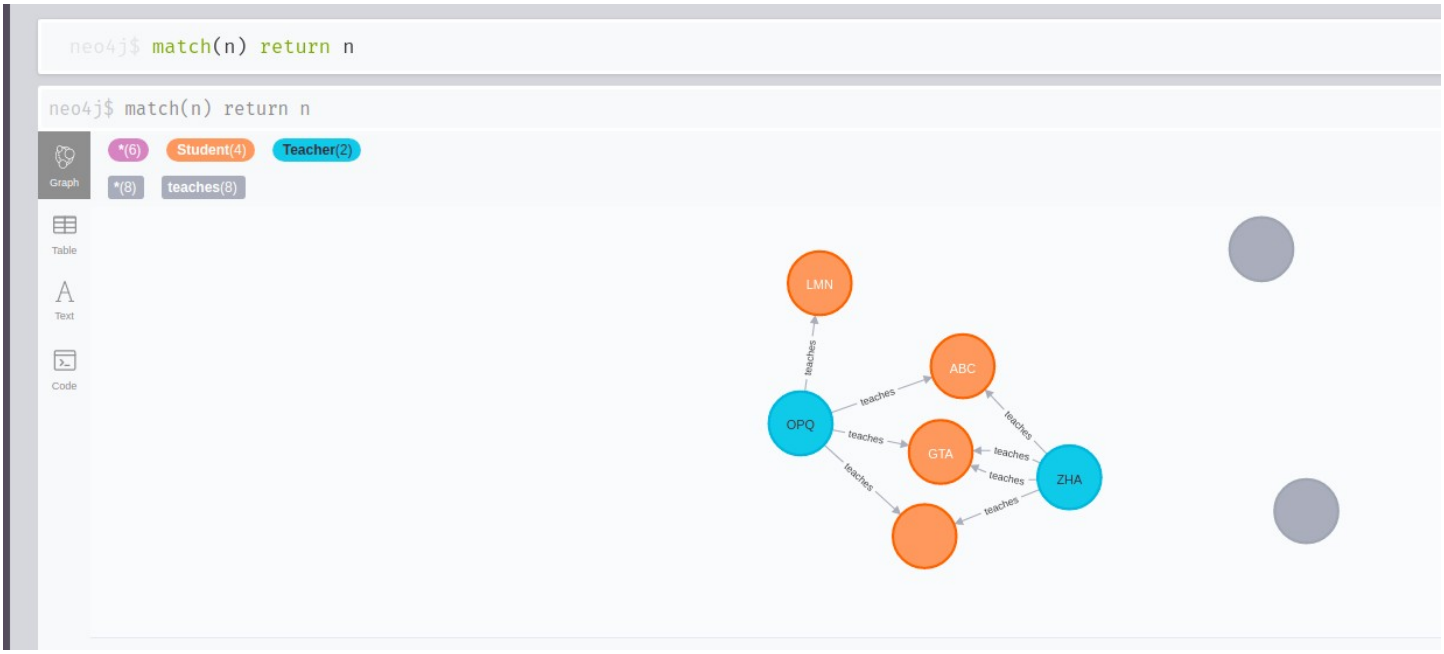
13. Delete certain node

match(n) where ID(n) = 0 delete n

- Delete the node with id = 0

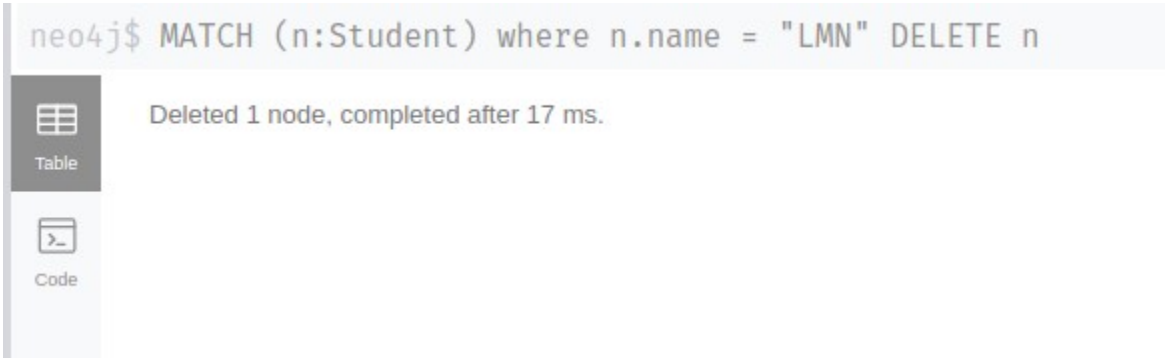


Result:

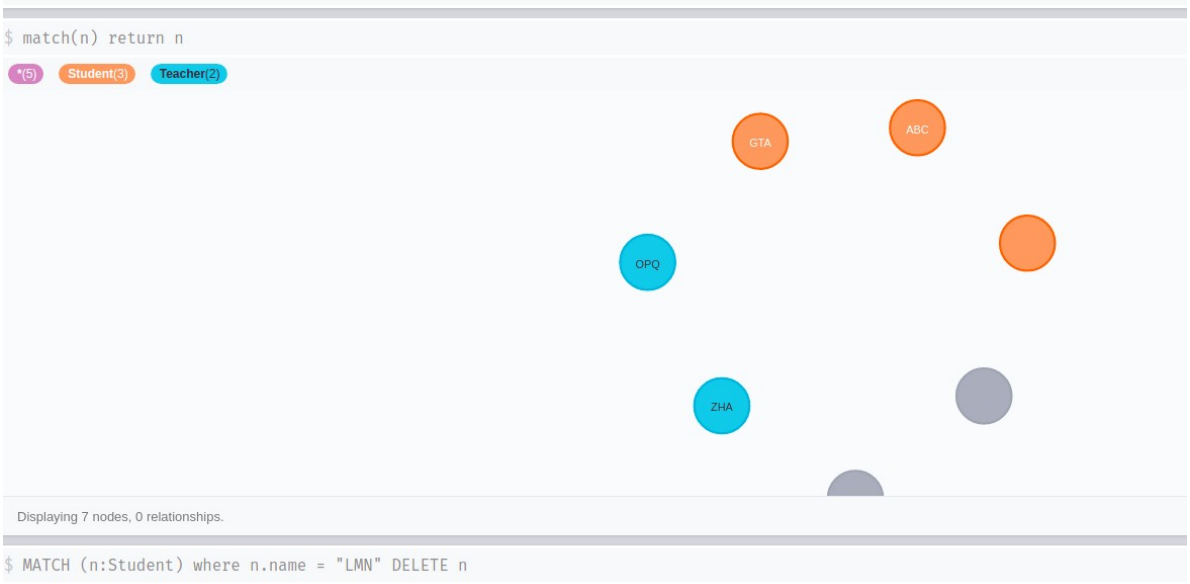


match(n:Student) where n.name = “LMN” delete n

- Delete the Student node with name prop as LMN



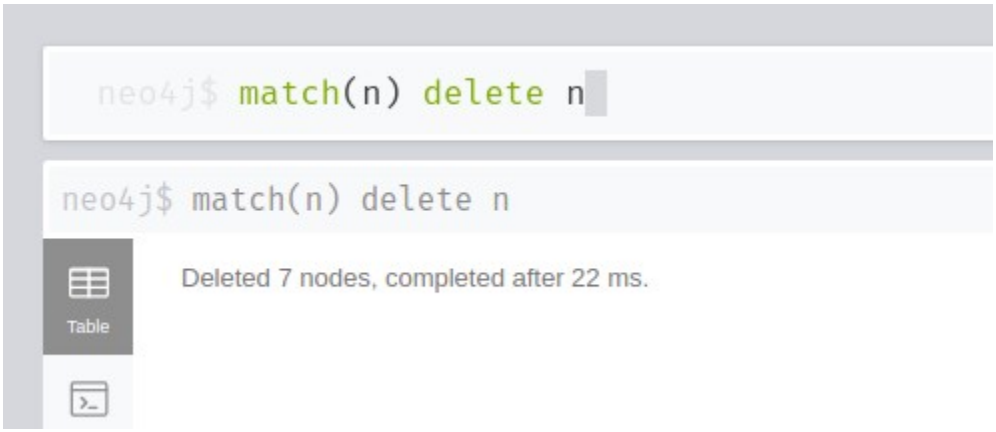
Result:



14. Delete all nodes

match(n) delete n

- After all relationships are deleted, delete all the nodes in the db



Result: