

Topic 11 - CRUD Operations in Graph database:

Aim: To perform CRUD operation like creating, inserting, querying, finding, deleting operations on graph space

=> Create Node with properties

Properties on the key-value pairs using which a node has properties using the CREATE clause you need to specify these properties separated by commas within the flower braces "{}".

Syntax:

Following is the syntax to create a node with properties.

CREATE (node:label {key1: Value, key2: Value...})

=> Returning the created node

To verify the creation of the node, type and execute the following query in the dollar prompt

MATCH (n) RETURN n

=> Creating Relationships

We can create a relationship using the CREATE clause. We will specify relationship within the square braces "[" depending on the direction of the relationship it is placed below hyphen "-" and arrow "→" also with in followed syntax.

Syntax:

following is the Syntax to create a relationship using the CREATE clause

CREATE (node1)-[:RelationshipType]→(node2).

\* Creating a Relationship b/w the existing Nodes  
you can also create a relationship b/w the existing nodes  
using the MATCH clause.

```
MATCH (a:Label of Node), (b:Label of Node 2)
WHERE a.name = "name of node 1" AND b.name =
      "name of node 2"
CREATE (a) - [:Relation] -> (b)
RETURN a,b
```

\* Deleting a Particular Node

To delete a particular node, you need to specify the details of the node in the place of "n" in the above query.

Syntax:

following is the syntax to delete a particular node from Neo4j using DELETE clause.

```
MATCH (node: Label {properties --- })
DETACH DELETE node.
```

Create a graph database for student course registration,  
create student and deptt node and insert value of properties.

```
create (n:student {sid:"VTU14500",
  Sname:"John",
  deptname:"CSE"})
```

}

Output

Added 1 label, created 1 node, set 3 properties,  
Completed after 232 ms

```
Create(n:student {sid:"VTU14500",
  Sname:"Dharsana",
  deptname:"EEE"})
```

Output

Added 1 label, created 1 node, set 3 properties, completed after 16 ms

create (n:student {sid "UT014502",

sname "vijay"

department "CSE")

3)

Output

Added 1 label, created 1 node, set 3 properties, completed after 12 ms

create (n:dept {deptname: "CSE", deptid "d001"})

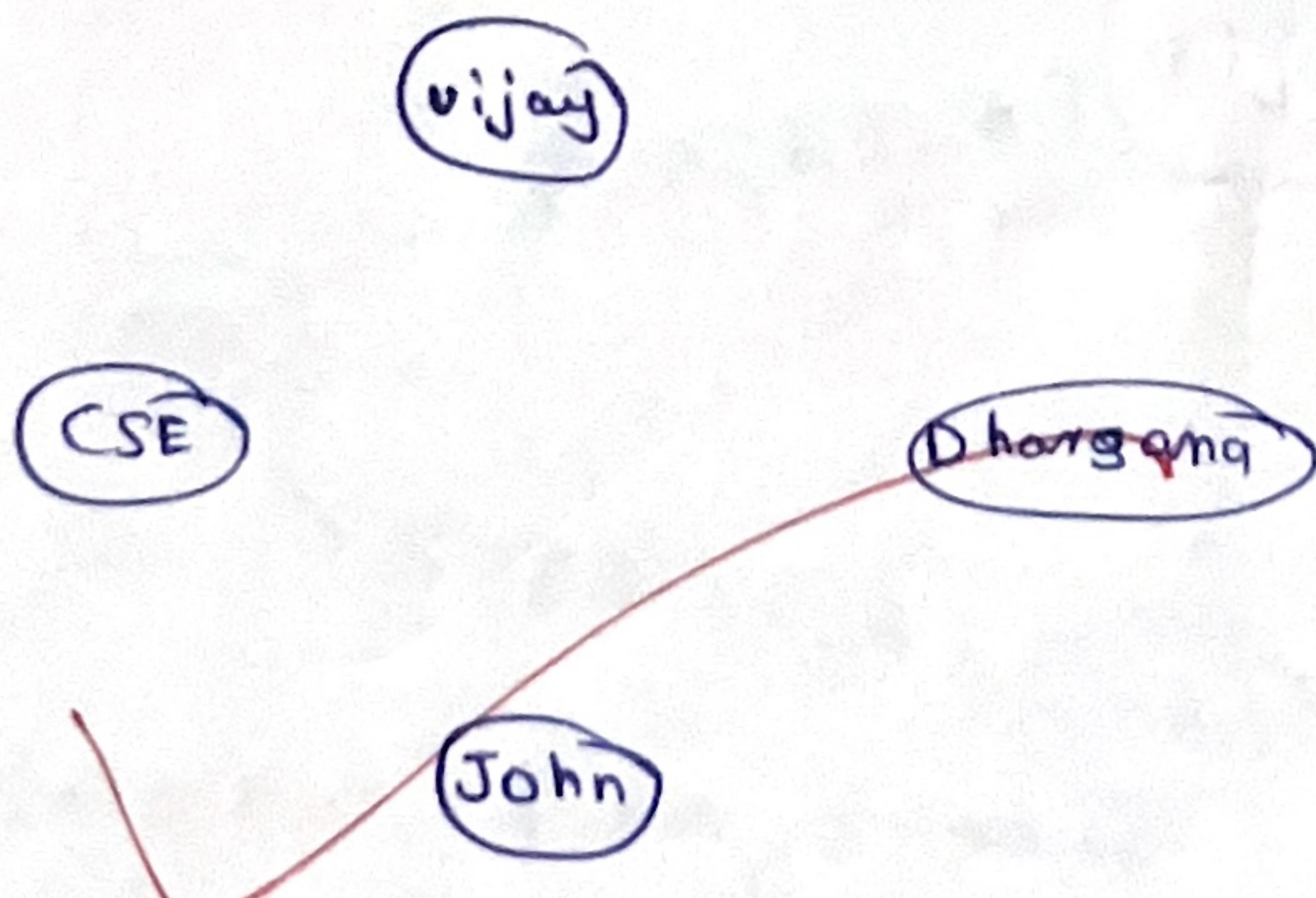
Output:

Added 1 label, created 1 node, set 3 properties, completed after 72 ms

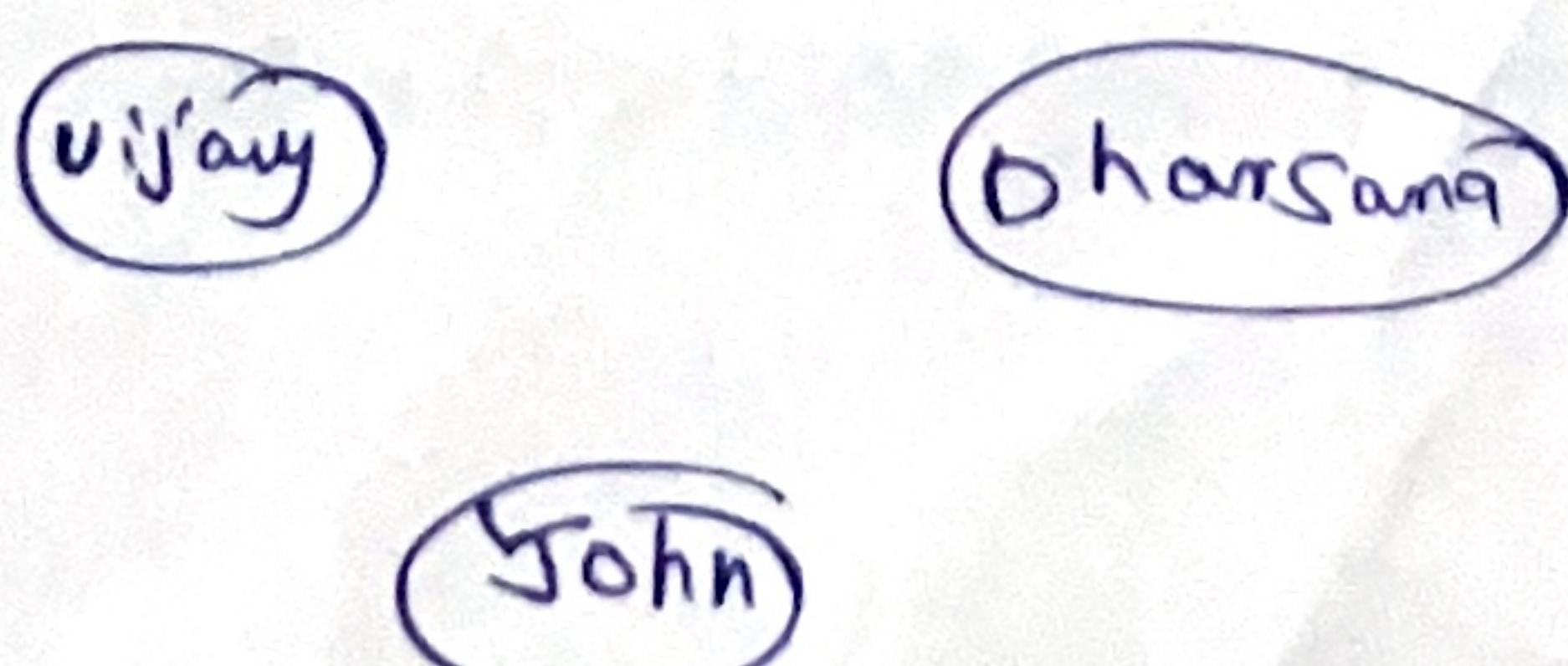
Select all the nodes in your database using match command

\* match(n) return(n)

Output



\* match(n:student) return(n)

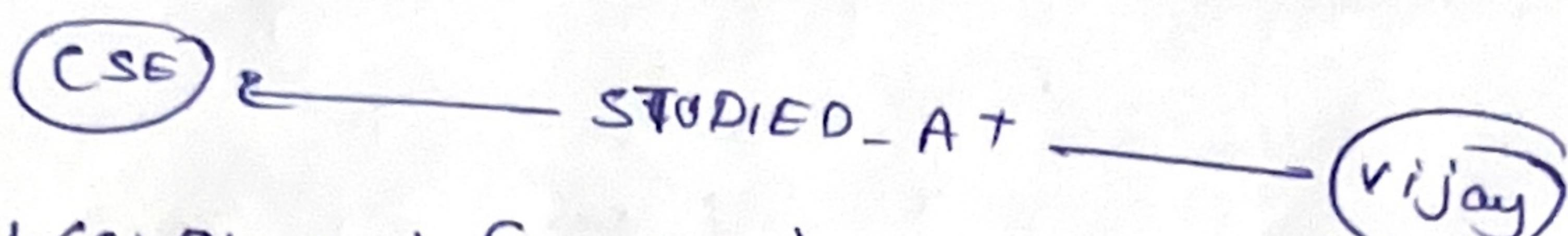


a) Create relationship b/w student & cse

MATCH (s:Student), (d:dept) WHERE s.sname = 'vijay'  
AND d.deptname = 'cse'

CREATE (s) - [st: STUDIED\_AT] -> d  
return s,d

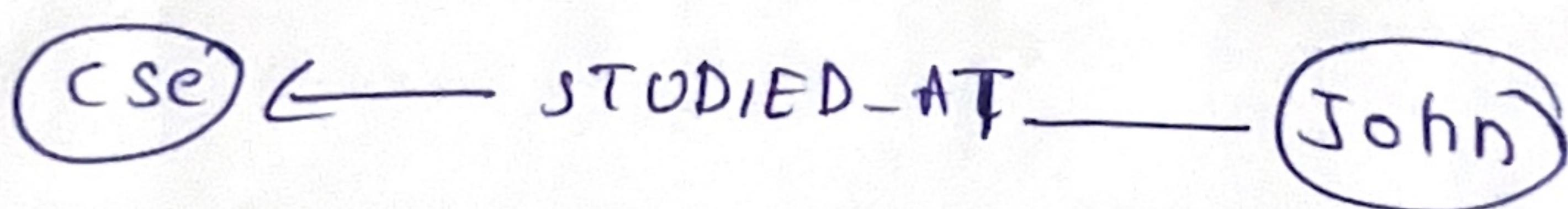
Output



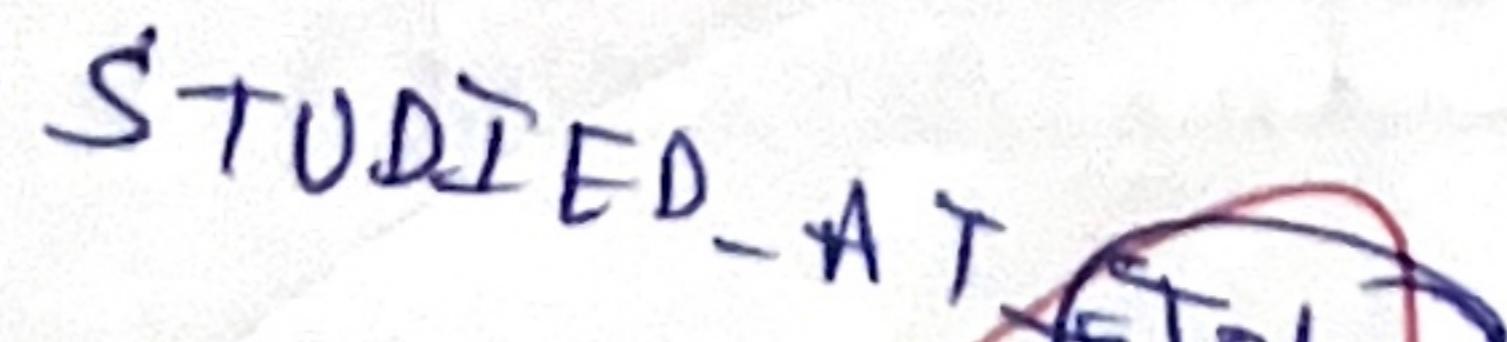
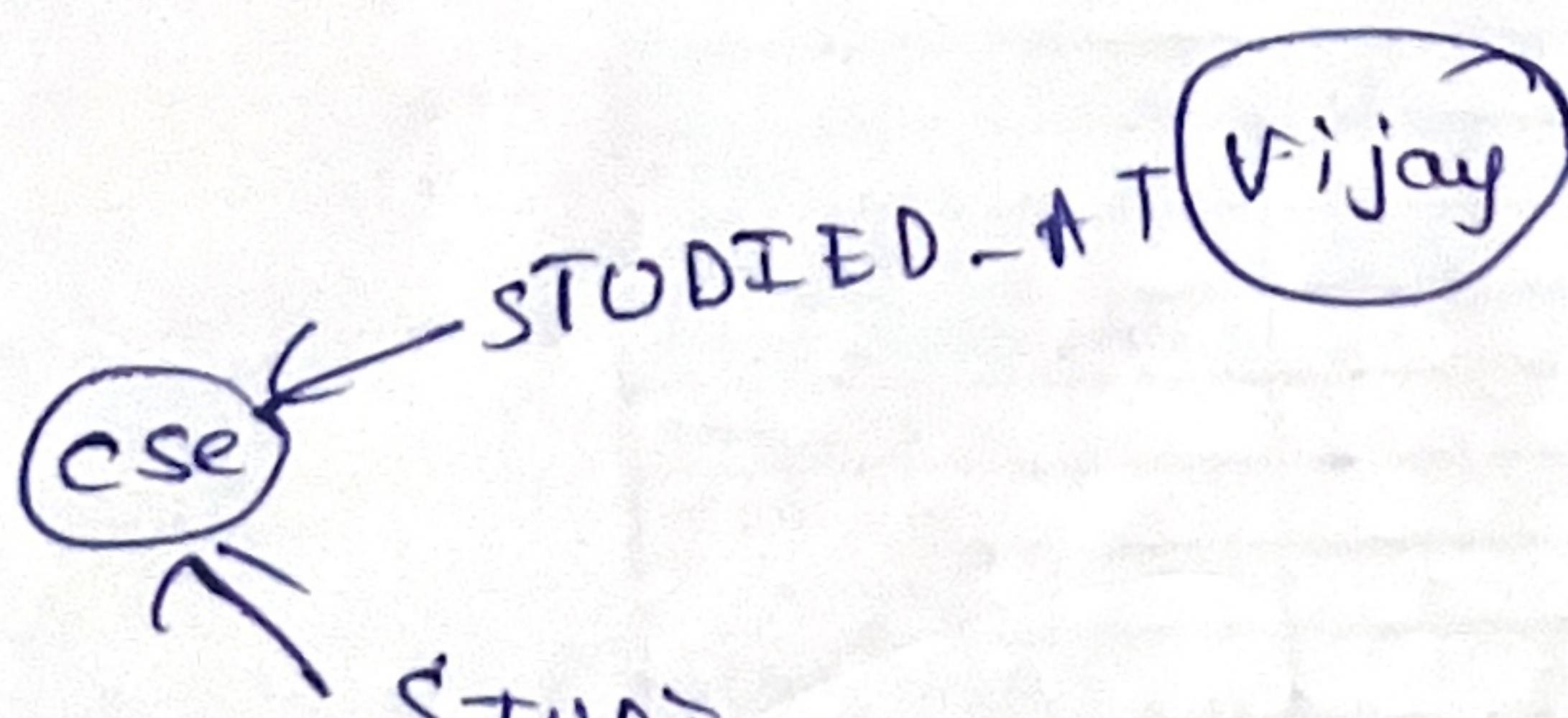
MATCH (s:Student), (d:dept) WHERE s.sname = 'John'  
AND d.deptname = 'cse'

CREATE (s) - [st: STUDIED\_AT] -> d  
return s,d

Output



Match (n) & return (n)



b) Delete a node from student

Match (n:student) WHERE sname = 'Pharsana' DELETE n

Output

Deleted 1 node, completed after 0.834 ms

CSE ← STUDIES AT vijay  
 ↑  
 STUDIES AT John

VELTECH	
EX No.	11
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	2
RECORD (5)	2
TOTAL (20)	12
SIGN WITH DATE	14/10/2018

Result:

The implementation of C R O D Operations like  
 Operation like creating, inserting, finding and  
 Removing operations using Graph DB is  
 successfully executed.