16/10/24 TASK - 11 :- CRUD OPERATIONS IN GRAPH DATABASE

Aim :- To perform CRUD operations like creating, inserting, querying, finding, deleting operations on Graph spaces.

* Create Node with properties :- properties are the key-value pairs using which a node stores data. you can create a node with 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.

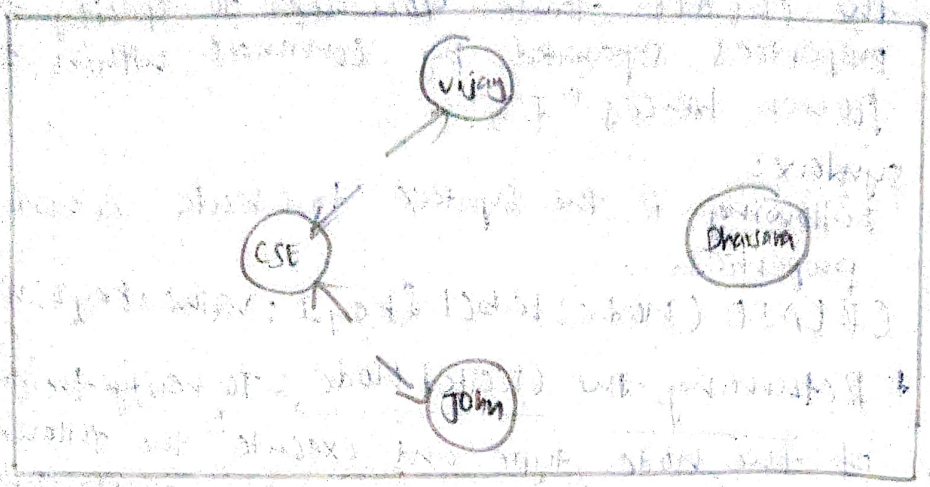
* Creating Relationships :- we can create a relationship using the CREATE clause. we will specify relationship within the square braces "[ ]"

Syntax :-
Following is the syntax to create a relationship using the CREATE clause.
CREATE (node 1)-[:RelationshipType]->(node 2)

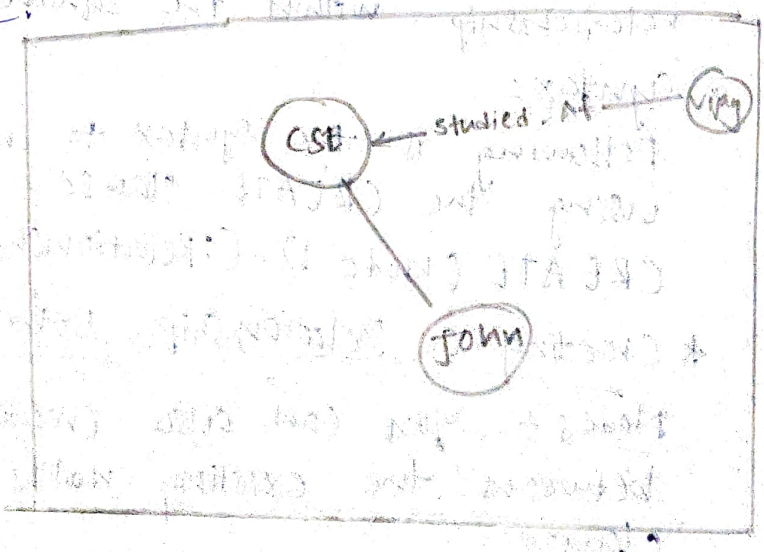
* Creating a Relationship Between the Existing Nodes :- you can also create a relationship between the existing nodes using the MATCH clause.

Syntax :-
Following is the syntax to create a relationship using the MATCH clause
MATCH (a:LabelofNode1), (b:LabelofNode2)
WHERE a.name = "name of node 1" AND b.name = "name of node 2"
CREATE (a)-[:Relation]->(b)

Output :-



Output :-



RETORN 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 the DELETE clause.

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

* Create a graph database for student course registration, create student and dept node and insert values 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: "VTU14501",
sname: "Dharsana",
deptname: "EEE"})
```

OUTPUT:-

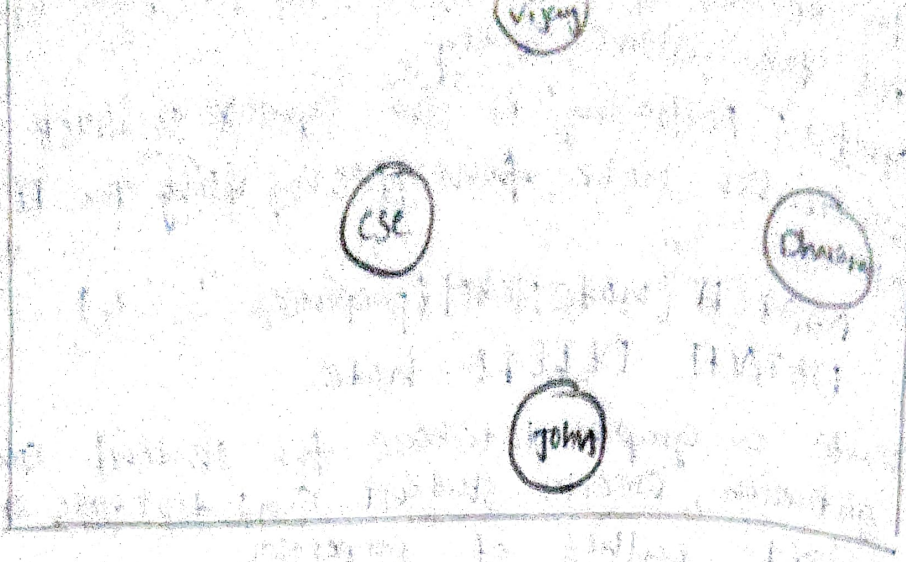
Added 1 label, created 1 node, set 3 properties, completed after 16 ms.

```
create (n: student {sid: "VTU14502",
sname: "vijay",
deptname: "CSE"
})
```

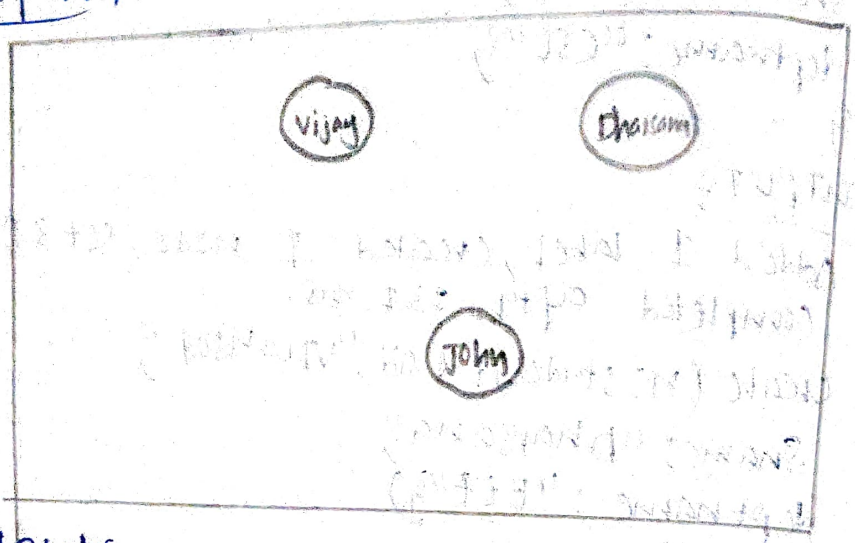
OUTPUT:-

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

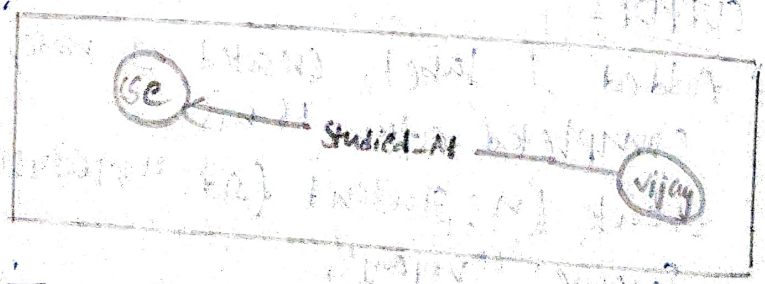
```
Create (n:dept {deptname: "CSE", deptid: "d001"})
```



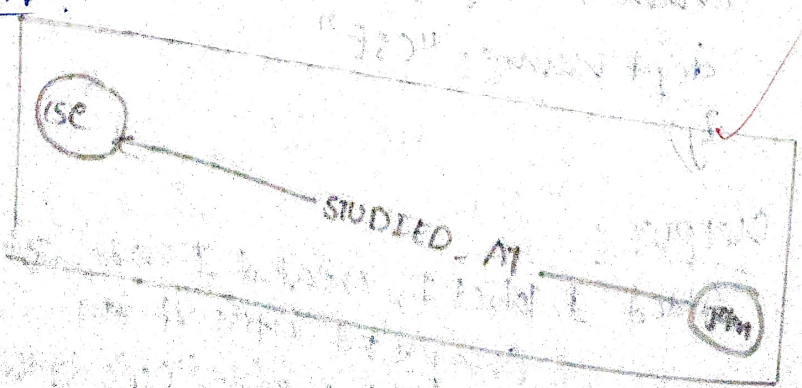
Output :-



Output :-



Output :-



output:
Added 1 label, created 1 node, set 2 properties, completed after 72 ms.

Select all the nodes in your database using match command.

* match(n) return(n).

* match(n:Student) return(n)

a) Create relationship between student and cse:

MATCH(S:Student),(d:dept) WHERE S.Sname = 'vijay' AND d.deptname = 'CSE'
CREATE(S)-[st:STUDIED_AT]->(d)
return S,d.

* MATCH(S:Student),(d:dept) WHERE S.Sname = 'John'
AND d.deptname = 'CSE'
CREATE(S)-[st:STUDIED_AT]->(d)
return S,d.

* match(n) return(n)

b) Delete a node from student:-

match(n:Student{Sname:'Dharsana'}) DELETE(n)

OUTPUT:- Deleted 1 node, completed after 10834 ms.

VEL TECH - CSE	
EX NO.	5
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	20
TOTAL (20)	
SIGN WITH DATE	

Result:- The implemented of CRUD operations like creating, inserting, finding and removing operations using GraphDB is successfully executed.