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-values pair using with a node stores data. You can create a nodes 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 :lable {key1: Value, key2: Value,
                     .....})
```

* Returning the Created Node :-

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

```
MATCH(n) RETURN n.
```

* Create Relationship :-

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 between hyphen "-" and arrow "→" as shown in the following syntax

Syntax :-

following is the syntax to create a relationship using the CREATE clause.

```
CREATE (node1)-[:Relationship Type]->(node2)
```

11/10/25 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: Label of Node1), (b: Label of Node2)
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 nodes in the place of "n" in the above query.

Syntax:-

Following is the syntax:-

```
MATCH (node: label & properties.....)
DETACH DELETE node.
```

Create a graph database for students course registration, create students and dept node and insert values of properties.

```
Create (n: student{sid: "VTU14500",
    sname: 'john',
    deptname: "CSE"}
)
```

Output:-

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

```
Create (n: student &sid: "VTU14501",
 sname: "pharsana",
  deptname: "EEE"})
```

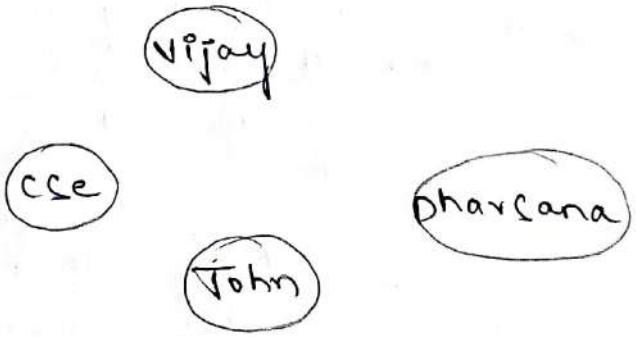
output:-
Added 1 lable, created 1 node, set 3 properties,
Completed after 12 ms.
Create (n: dept name : "CSE", dept id : "d001")

output:-
Added 1 lable, created 1 node, set 2 properties,
Completed after 72 ms

Select all nodes in your database using match ~~command~~ command

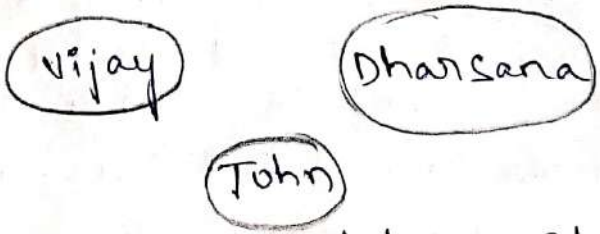
* match(n) return(n)

output:-



* match(n:student) return(n)

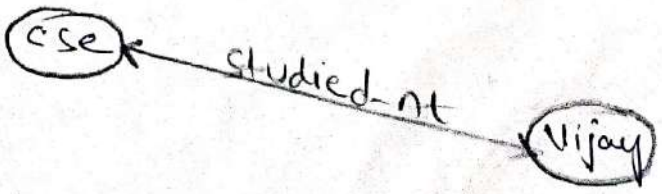
output:-



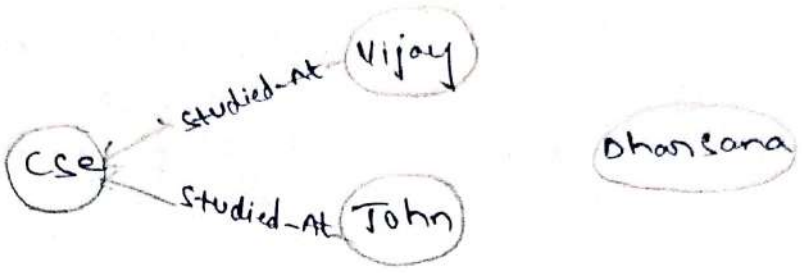
(a) create relationship between student and cse

MATCH(s:student), (d:dept) where s.sname = 'Vijay' AND d.deptname = 'CSE'
CREATE(s)-[st:student_At]->(d)
return s,d.

output:-



match(n) return(n).

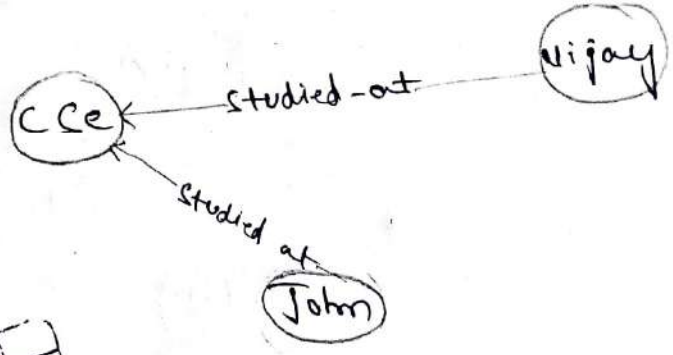


(b) Delete a node from student

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

output:

Deleted 1 node, completed after 10834ms



VEL TECH	CSE
EX NO	9
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	15
TOTAL (20)	
SIGN WITH DATE	

19/10

VEL TECH	
EX No.	
PERFORMANCE (5)	
RESULT AND ANALYSIS (3)	
VIVA VOCE (3)	
RECORD (4)	
TOTAL (15)	
SIGN WITH DATE	

Result:-

The implementation of CRUD operations like creating, insertion, finding and removing operation using Graph DB is successfully executed.