Task No:11
Date: 14/10/25

CURD OPERATIONS IN GRAPH DATABASE.

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

* Create Node with properties:

~~Algorithm:~~

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 ~~veri~~ 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 in the syntax to create a relationship using the CREATE clause:

CREATE (node1)-[:Relationship type]→(node2).

* 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 between the existing nodes using the MATCH clause.

```
MATCH (a:labelofNode1),(b:LabelofNode2)
WHERE (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 238ms.

```
create (n:student{sid:"VTU14501",
sname:"Dharsana",
deptname:"EEE"})
```

output:

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

```
create (w:student{sid:"VTU14502",
sname:"vijay",
department:"CSE"
})
```

output:

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

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

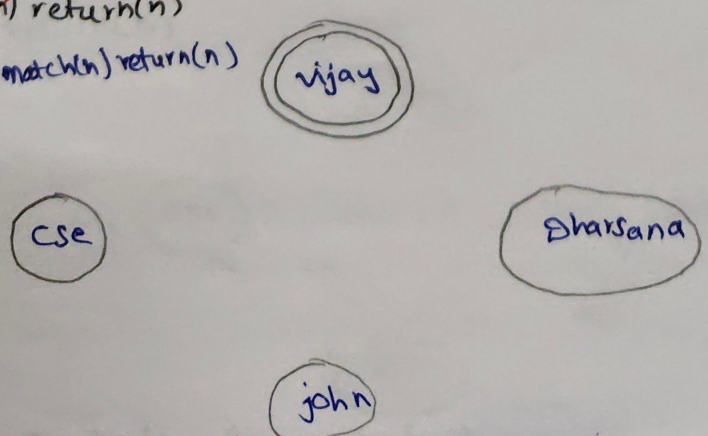
output:

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

Select all the nodes in your database using match command

```
match (n) return(n)
```

output: match(n) return(n)



Match(n:student) return(n)

Output:-

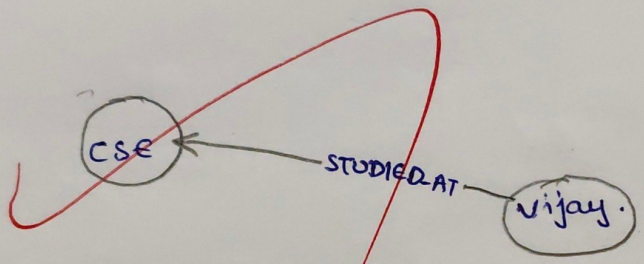
a) Create relationship between student and cse.

MATCH (S:student), (d:dept) WHERE S.Sname='vijay' AND d.deptname='cs

CREATE (S)-[st:STUDIED_AT]->(d)
return S,d.

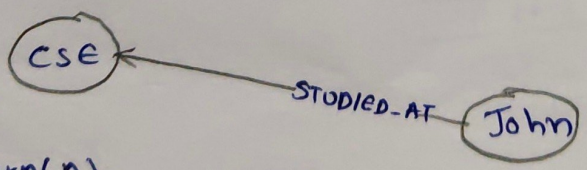
Output:

1. MATCH(S:student), (d:dept) WHERE S.Sname='vijay' AND d.deptname='cse'
2. CREATE (S)-[st:STUDIED_AT)->(d)
3. return S,d.

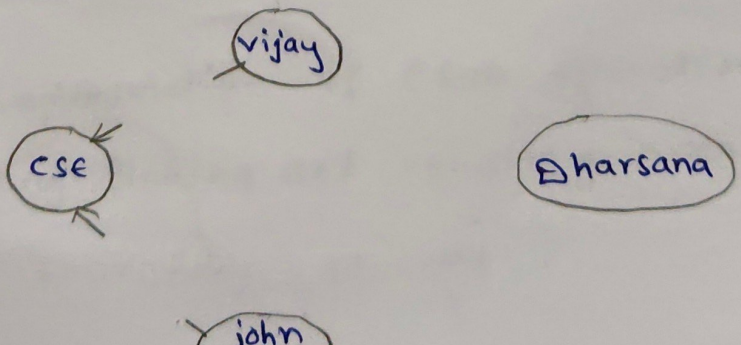


MATCH (S.student), (d:dept) WHERE S.Sname='john' AND d.deptname='cse'
CREATE (S)-[st:STUDIED_AT]->(d)
return S, d

Output:



match(n) return(n)

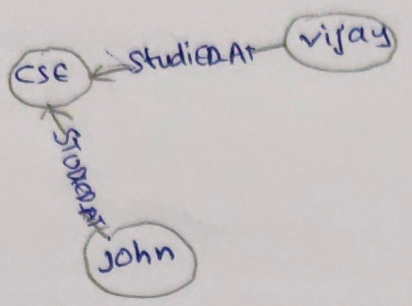


b) Delete a node from student

match (n:student{ name:'Dharasana'}) DELETE(n).

output:

Deleted 1 node, completed after 10934 ms



EX NO.	11
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	4
RECORD (5)	
TOTAL (20)	14
SIGN WITH DATE	

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