TASK NO-11 CRUD Operations in Graph Database

Dt:- 14/10/25

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 seperated by commas within the flower braces "{}".

Syntax:-

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

Returning the Create Node

To verify the ~~certain~~ 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 the relationship within the square braces "[]" depending on the direction of the relationship it is placed between hypen "-" and arrow "→".

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

Creating Relationship Between the existing nodes

You can also create a relationship between the existing nodes using the MATCH clause

Syntax:-

MATCH (a:Label of Node1), (b: Lade of Node2)
WHERE a.name = "name of node1" AND
b.name = "name of node2"
CREATE (a)-[:Relation]→(b)
RETURN a,b

Delete 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:-

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 230 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 (w: student {sid: "VTU14502", sname: "vijay", deptname: "CSE"})

Output:-

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

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

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)

output:-

* match (n: Student) return (n)

output:-

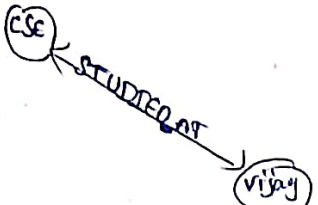
a) Create Relationship between Student and CSE

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

CREATE (s) - [st: STUDIED_AT] → (d)

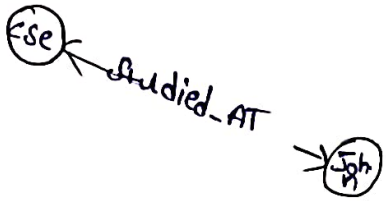
return s, d.

output:-

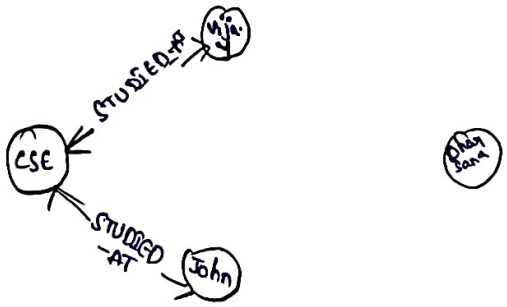


MATCH(s:student), (d:dept) where s.sname = 'John' AND d.dept name = 'cse'
CREATE(s)-[st:STUDIED_AT] ->(d)
return s, d

OUTPUT:-



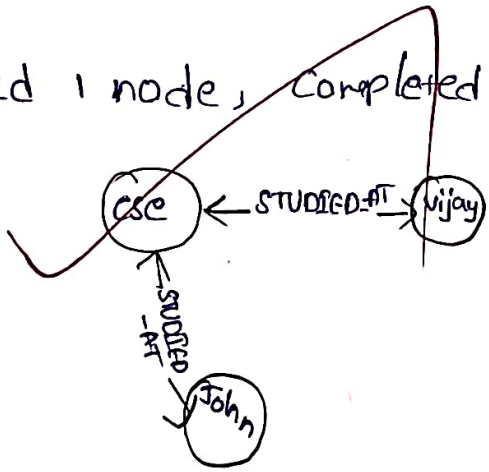
MATCH(n) return(n)



b.) delete a node from student:

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

Deleted 1 node, completed after 10834 ms



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EX No.	11
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	4
RECORD (4)	
TOTAL	14

Result:- Thus the implementation of CRUD operations like creating, inserting, finding and removing operations using graph DB is successfully executed.