2/9/25 TASK 9: CRUD operations in Graph database

AIM: To perform CRUD operations like creating, inserting, querying, finding, deleting operations on graph stores.

The steps to get started with Neo4j's AURA Graph Database:

Step 1:- copy and paste the following link into your web browser.

https://neo4j.com/cloud/platform/aura-graph-database/?ref=docs-get-started-drof down.

Step 2:- click on "start free."

Step 3:- choose the option to "continue with Google."

Step 4:- click the "open" button.

Step 5: After clicking "open," a text file will be automatically downloaded. This file contains your userID and password details.

Step 6:- copy the password from the downloaded text file and paste it where required.

Step 7:- close the "Get started with Neo4j with beginner guides" if it's open.

Step 8:- you're now ready to begin working with the Graph database

Create Node with Properties

Properties are the key-value pairs using which a node stores data. Create a node with properties using the CREATE clause and need to specify these properties seperated by commas within the flower braces "{}".

Syntax:-

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

Creating Relationships

To create a relationship using the CREATE clause and 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.

Output:

Retrieve particular Player details:

match (p: Player { PlayerID: '33'}) return p

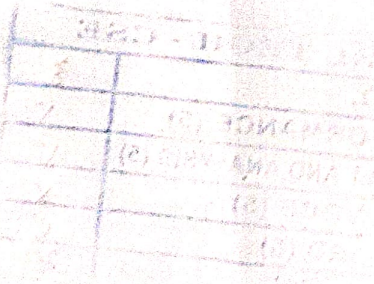
Update particular Player details:

match (p: Player{ PlayerID: '1'}) set p.age = 27 return p

output:

Delete particular Player from the team:

match (p: Player {PlayerID: '33'}) delete p



Syntax:-

```
CREATE (node 1)-[:Relationship type]->(node 2)
```

Syntax:-

```
MATCH (a:Labelofnode1), (b:Labelofnode2)
WHERE a.name="nameofnode1" AND b.name="nameofnode2"
CREATE (a)-[:Relation]->(b) RETURN a,b
```

Deleting a Particular Node

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

Syntax:

```
MATCH (node:label {Properties.....}) DELETE node
```

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

Create a Cricket Board Node:

```
Create (Cb:CricketBoard {BoardID:'BID01', Name:'Chennai Cricket Board',
Address:'Chennai', Phone:9988776699}) return Cb
```

Cricket Team Nodes:

```
Create (t1:Team{teamID:'CCB01', BoardID:'BID01', Name:'AGS EXPRESS',
Coach:'G.D. RAMESH', Captain:'SAMPATH KUMAR'}) return t1

Create (t2:Team{TeamID:'CCB02', BoardID:'BID01', Name:'AVG EXPRESS',
Coach:'T. KARTHIKH', Captain:'Y. JOHN'}) return t2.
```

Create Player Nodes:

```
Create (P1:Player{PlayerID:'1', TeamID:'CCB01', Name:'RAJ', Age:23, Date
of Birth:'29-Jun-1996', Playing Role:'Bowler', email:'raJn@gmail.com'})
return P1

Create (P2:Player{PlayerID:'33', TeamID:'CCB01', Name:'Anand', Age:23,
Date of Birth:'02-JAN-1999', Playing Role:'Batsman', email:'balaji.id@
gmail.comm'}) return P2
```

Creating Relationship among Cricket Board and Teams:

match (Cb: Cricket Board {Board ID: 'BID01'}), (t1: team {team ID: 'CCB01'})
create (Cb) - [r: has] -> (t1) return Cb, r, t1

match (Cb: Cricket Board {Board ID: 'BID01'}), (t2: team {team ID: 'CCB02'})
create (Cb) - [r: has] -> (t2) return Cb, r, t2

Creating Relationship among Players and Teams:

match (P1: Player {Player ID: '1'}), (t1: team ID: 'CCB01') create (P1) - [r1: Play for] - > (t1)
return P1, r, t1

match (P2: Player ID: '33'}), (t1: team (team ID: 'CCB01') create (P2) - [r2: Play for] -> (t1) return P2, r2, t1.

Display All Nodes: match (n) return n.

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RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	5
TOTAL (20)	20
SIGN WITH DATE	

Result: Thus the CRUD operations like creating, inserting, querying, finding, deleting operations on graph spaces where executed successfully.