Lab - 10

NEO4J

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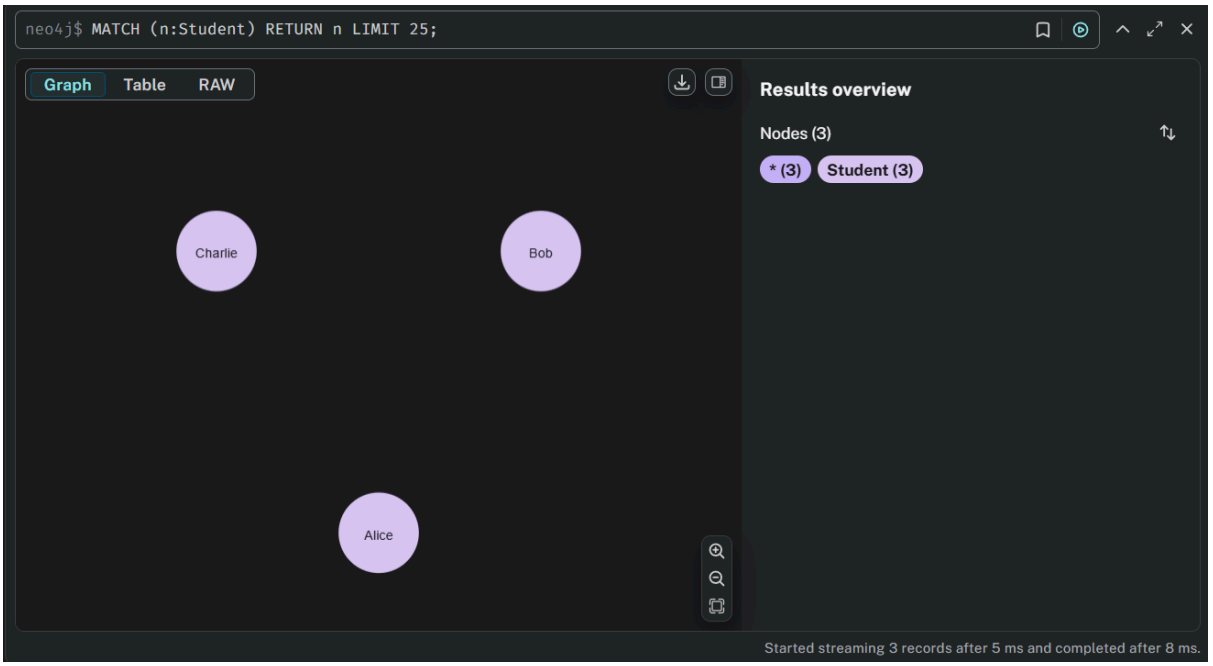
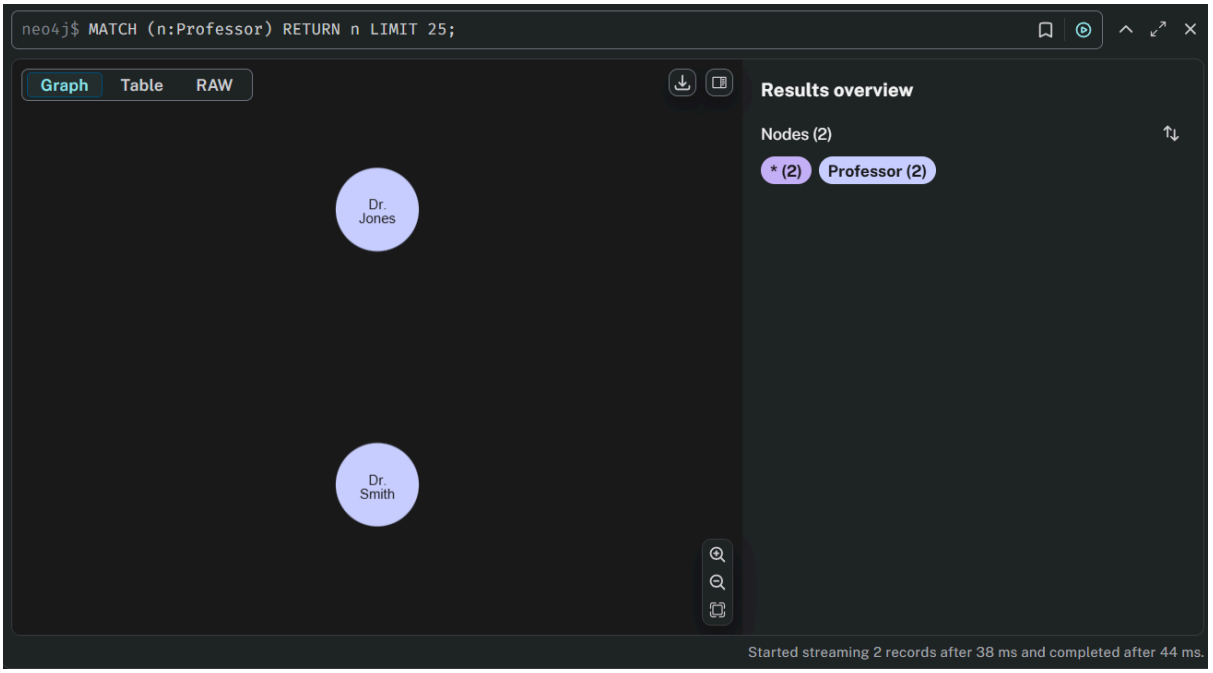
Sec	B
Date	31-10-2025

Part A: Create Nodes:

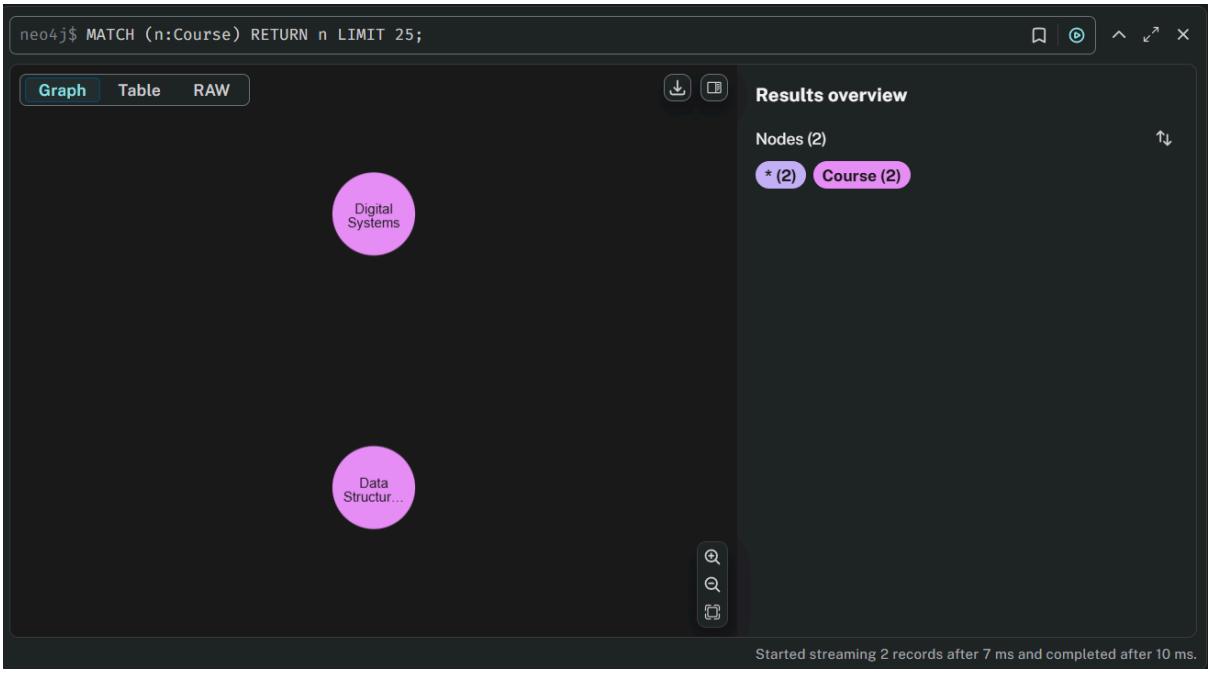
1.Create Student Nodes with name, age and major. We have Alice, 21, CSE & Bob, 22, ECE and Charlie, 20, CSE.



2.Create Professor Nodes, Dr. Smith for the CSE department and Dr. Jones for the ECE department

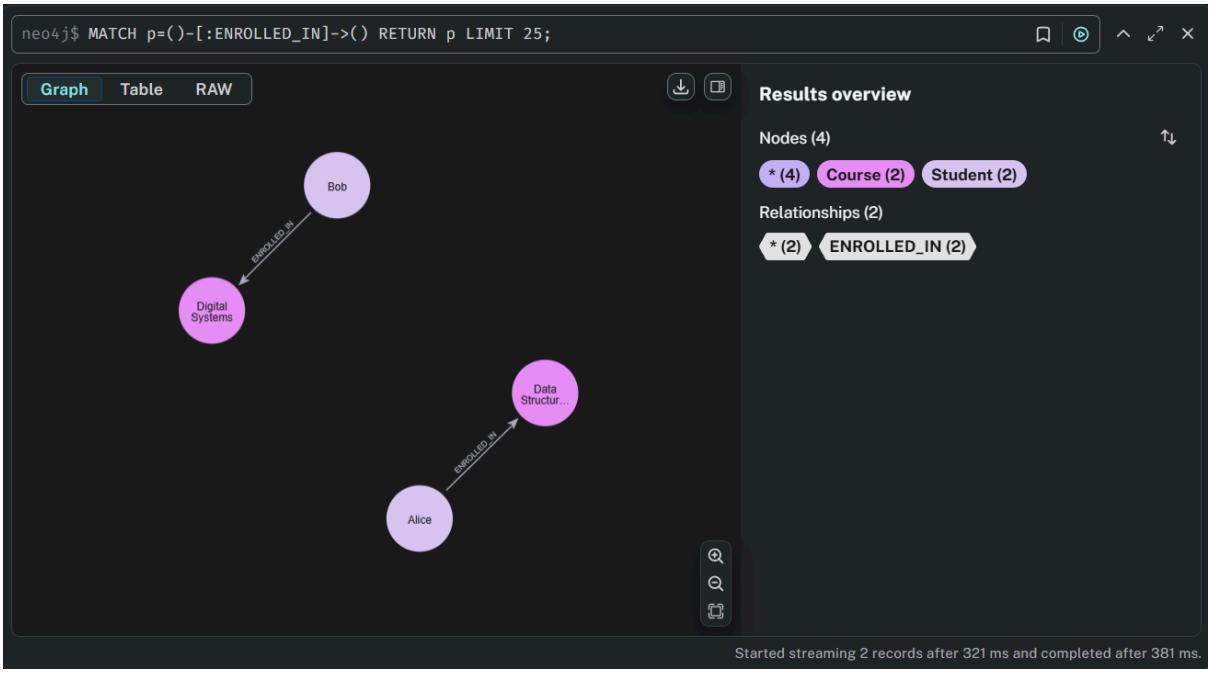


3.Create Course Nodes (CODE: CS101, DATA STRUCTURES & CODE: EC202, DIGITAL SYSTEMS)

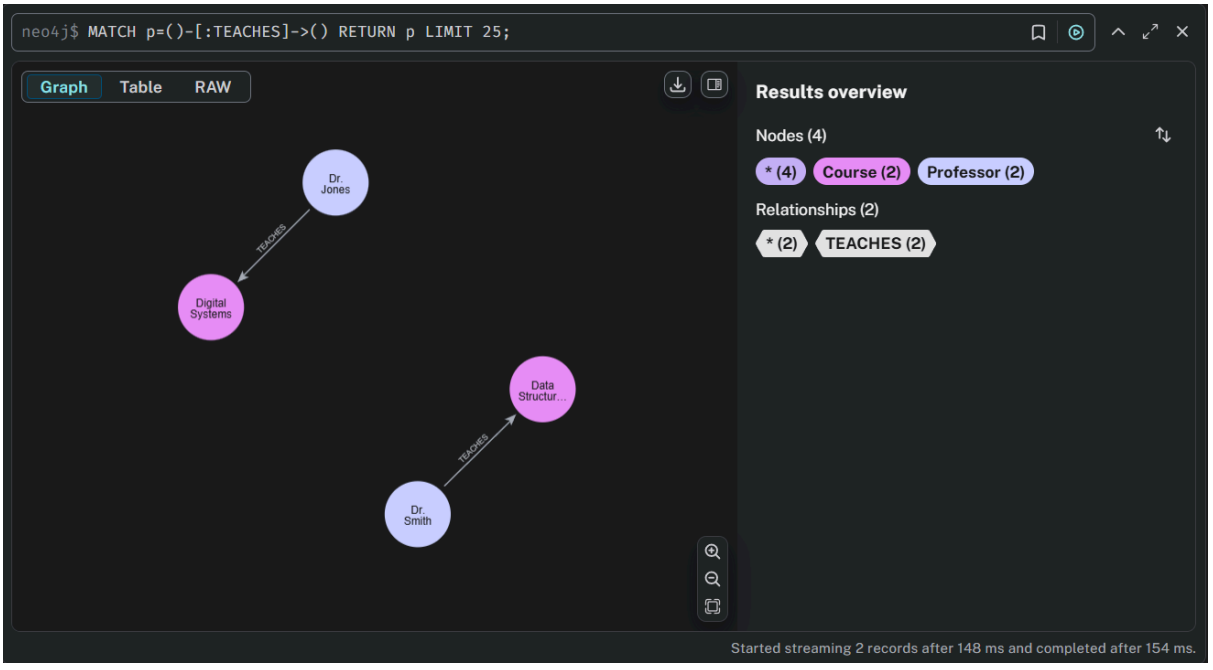


Part B: Create Relationships

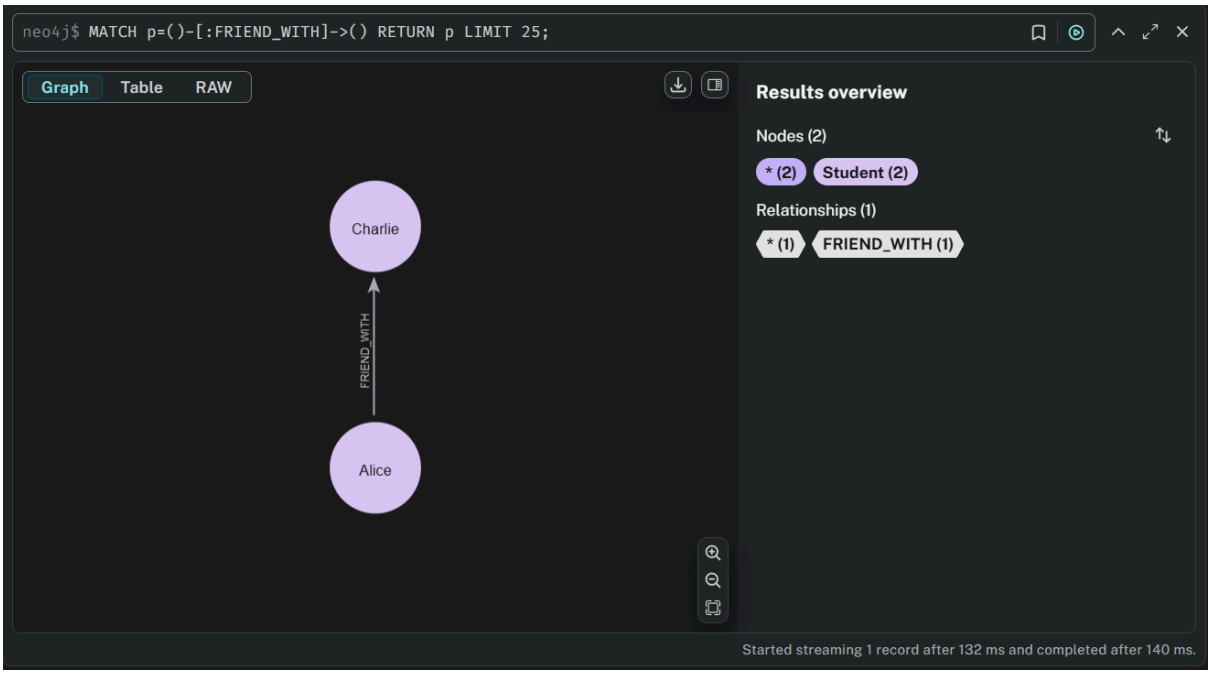
4.Show that Alice has enrolled into “CS101” and Bob has enrolled into “EC202”



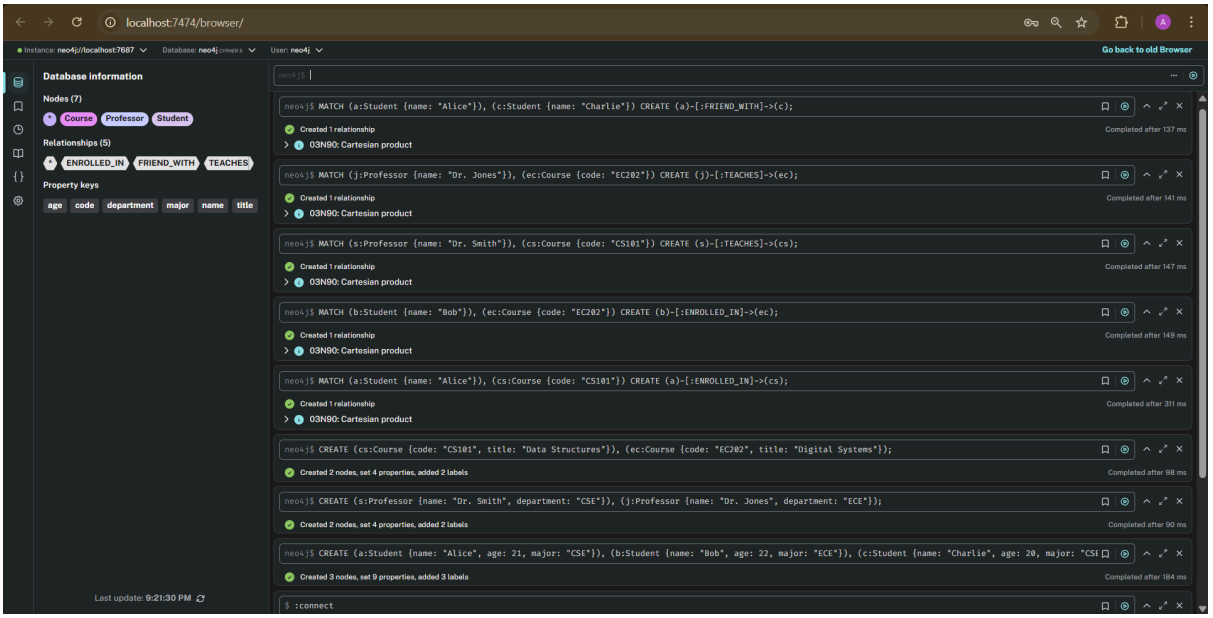
5.Show that professor Dr. Smith teaches “CS101” and Dr. Jones teaches “EC202”



6.Create friendship between Alice and Charlie



Created Nodes and relationships:



Part C: Query the Graph:

7. List All Students:

```
neo4j$ MATCH (s:Student) RETURN s.name AS Student, s.age AS Age, s.major AS Major;
```

Table | RAW

Student	Age	Major
1 "Alice"	21	"CSE"
2 "Bob"	22	"ECE"
3 "Charlie"	20	"CSE"

Started streaming 3 records after 18 ms and completed after 36 ms.

8.Find Courses Taught by Dr. Smith

```
neo4j$ MATCH (p:Professor {name: "Dr. Smith"})-[:TEACHES]->(c:Course) RETURN c.title AS CourseTaughtByDr
```

Table | RAW

CourseTaughtByD
1 "Data Structures"

Started streaming 1 record after 1,850 ms and completed after 1,967 ms.

9.Find Friends of Charlie

```
neo4j$ MATCH (s:Student {name: "Charlie"})<-[:FRIEND_WITH]-(friend) RETURN friend.name AS FriendsOfCharl
```

Table | RAW

FriendsOfCharlie
1 "Alice"

Started streaming 1 record after 268 ms and completed after 273 ms.

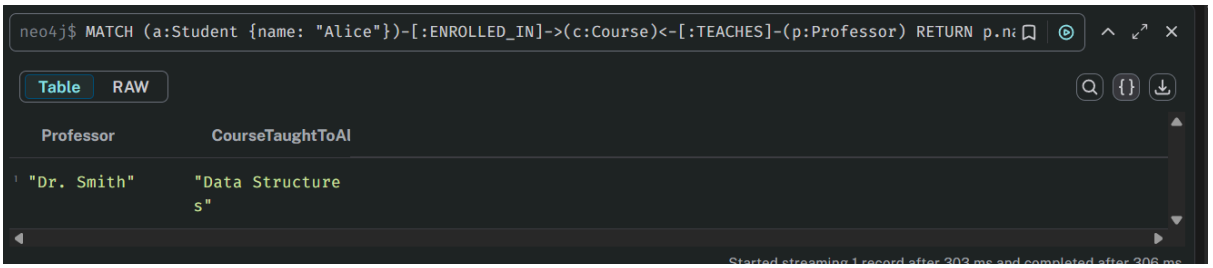
10.List All Students in the Same Course

```
neo4j$ MATCH (s1:Student)-[:ENROLLED_IN]->(c:Course)<-[:ENROLLED_IN]-(s2:Student) WHERE s1.name < s2.nam
```

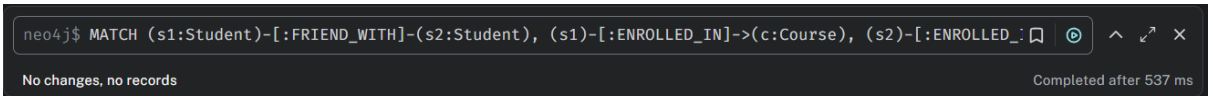
No changes, no records

Completed after 786 ms

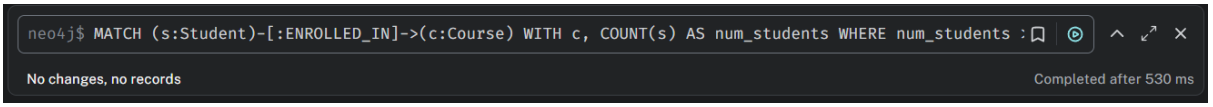
11.Find Professors Who Teach Alice’s Courses



12.Find Students Who Are Friends and Enrolled in the Same Course



13.Find Courses with More Than One Student Enrolled



14.Count how many students each professor teaches.