

Alexandro Francisco Marcelo González A01021383
Bases de Datos Avanzadas
Profesor: Dr. Vicente Cubells Nonell
29 de marzo de 2019

Tarea 4. Graph databases

3.1. El nombre de todos los estudiantes ordenados ascendentemente por los apellidos.

```
match(n:Estudiante)
return n.nombre as Nombre, n.apellido as Apellido, n.matricula as Matricula
order by n.apellido;
```

The screenshot shows the Neo4j Browser interface. At the top, a Cypher query is entered in a text area:

```
1 match(n:Estudiante)
2 return n.nombre as Nombre, n.apellido as Apellido, n.matricula as Matricula
3 order by n.apellido;
```

Below the query area, a blue banner suggests using Neo4j Browser Sync. The main area displays the query results in a table view. The table has three columns: Nombre, Apellido, and Matricula. The results are sorted by Apellido in ascending order. The table contains 20 rows of data.

| Nombre | Apellido | Matricula |
|------------|-------------|-------------|
| "Illana" | "Barker" | "A08056681" |
| "Nash" | "Bass" | "A48524396" |
| "Brock" | "Bernard" | "A32589759" |
| "Paki" | "Bond" | "A37233393" |
| "Nero" | "Boone" | "A03884805" |
| "Neil" | "Bowers" | "A15831282" |
| "Jackson" | "Bridges" | "A65823071" |
| "Hasad" | "Brown" | "A49717641" |
| "Steven" | "Buck" | "A37412919" |
| "Devin" | "Burks" | "A98906932" |
| "Driscoll" | "Burris" | "A26332003" |
| "Russell" | "Calhoun" | "A20568060" |
| "Mariam" | "Castaneda" | "A36080996" |
| "Jin" | "Charles" | "A13449774" |
| "Isabelle" | "Clark" | "A07362548" |
| "Gabriel" | "Conley" | "A12439410" |

At the bottom of the table, a status message reads: "Started streaming 100 records after 21 ms and completed after 36 ms."

3.2. El nombre y edad de todos los estudiantes mayor de 20 años.

```
match(n:Estudiante)
where n.edad > 20
return n.nombre as Nombre, n.apellido as Apellido, n.edad as edad;
```

```

1 match(n:Estudiante)
2 where n.edad > 20
3 return n.nombre as Nombre, n.apellido as Apellido, n.edad as edad;

```

☆

📄

▶

To enjoy the full Neo4j Browser experience, we advise you to use [Neo4j Browser Sync](#)

\$ match(n:Estudiante) where n.edad > 20 return n.nombre as Nombre, n.apellido as Apellido, ...

⬇

📌

↗

^

🔄

✕

Table

Text

Code

| Nombre | Apellido | edad |
|-------------|-------------|------|
| "Camille" | "Norris" | 21 |
| "Leroy" | "Riggs" | 23 |
| "Iris" | "Gross" | 21 |
| "Blythe" | "Smith" | 24 |
| "Brock" | "Bernard" | 24 |
| "Coby" | "Parsons" | 21 |
| "Russell" | "Calhoun" | 21 |
| "Aristotle" | "Hinton" | 23 |
| "Erin" | "Cooke" | 22 |
| "Shellie" | "Riddle" | 23 |
| "Lucius" | "Melton" | 23 |
| "Doris" | "Jefferson" | 23 |
| "Illana" | "Barker" | 21 |
| "Rowan" | "Sparks" | 21 |
| "Carly" | "Manning" | 22 |
| "Noble" | "Yang" | 23 |

Started streaming 64 records after 42 ms and completed after 43 ms.

3.3. El nombre y edad de todos los estudiantes que han tenido al menos una pareja.

Match (n)-[r:PAREJA_DE]->()
return n.nombre as Nombre, n.apellido as Apellido, n.edad as Edad, count(n.nombre) as Relaciones_totales;

```
Match (n {nombre: 'Emerson'})-[r:PAREJA_DE]->(m)
unwind[
duration.between(date(r.inicioRelacion), date(r.finRelacion))
]as Duracion_Relacion
return m.nombre as Nombre, m.apellido as Apellido, m.edad as Edad, m.matricula as Matricula,
Duracion_Relacion;
```

```

1 Match (n {nombre: 'Emerson'})-[r:PAREJA_DE]->(m)
2 unwind[
3 duration.between(date(r.inicioRelacion), date(r.finRelacion))
4 ]as Duracion_Relacion
5 return m.nombre as Nombre, m.apellido as Apellido, m.edad as Edad, m.matricula as
   Matricula, Duracion_Relacion;

```

To enjoy the full Neo4j Browser experience, we advise you to use [Neo4j Browser Sync](#)

\$ Match (n {nombre: 'Emerson'})-[r:PAREJA_DE]->(m) unwind[duration.between(date(r.inicioRel...

| Nombre | Apellido | Edad | Matricula | Duracion_Relacion |
|-------------|-----------|------|-------------|-------------------|
| "Aristotle" | "Hinton" | 23 | "A51580495" | "P24M12DT0S" |
| "Carly" | "Manning" | 22 | "A46030340" | "P25M18DT0S" |

Started streaming 2 records after 22 ms and completed after 25 ms.

3.5. Quién es el estudiante que ha tenido más relaciones de amistad.

```

Match (n)-[r:AMIGO_DE]->()
return n.nombre as Nombre, n.apellido as Apellido, count(n.matricula) as total_amigos
order by(total_amigos) desc limit 1;

```

```

1 Match (n)-[r:AMIGO_DE]->()
2 return n.nombre as Nombre, n.apellido as Apellido, count(n.matricula) as total_amigos
3 order by(total_amigos) desc limit 1;

```

To enjoy the full Neo4j Browser experience, we advise you to use [Neo4j Browser Sync](#)

\$ Match (n)-[r:AMIGO_DE]->() return n.nombre as Nombre, n.apellido as Apellido, count(n.matr...

| Nombre | Apellido | total_amigos |
|----------|----------|--------------|
| "Illana" | "Barker" | 96 |

Started streaming 1 records after 522 ms and completed after 522 ms.

3.6. Quiénes son los estudiantes que no han tenido relaciones de pareja.

```
match(n)
where not (n)-[:PAREJA_DE]->()
return n.nombre as Nombre, n.apellido as Apellido, n.matricula as Matricula;
```

1 Match(n)
2 where not (n)-[:PAREJA_DE]->()
3 return n.nombre as Nombre, n.apellido as Apellido, n.matricula as Matricula;

☆

📄

▶

To enjoy the full Neo4j Browser experience, we advise you to use

Neo4j Browser Sync

X

\$ Match(n) where not (n)-[:PAREJA_DE]->() return n.nombre as Nombre, n.apellido as Apellido,...

⬇

↗

↶

↷

↺

✕

Table

Text

Code

| Nombre | Apellido | Matricula |
|------------|--------------|-------------|
| "Camille" | "Norris" | "A30923884" |
| "Leroy" | "Riggs" | "A17142458" |
| "Ashely" | "Sears" | "A52720505" |
| "Iris" | "Gross" | "A19190533" |
| "McKenzie" | "Gates" | "A06609207" |
| "Leila" | "Dotson" | "A39822684" |
| "Lee" | "Montoya" | "A54785761" |
| "Blythe" | "Smith" | "A76134150" |
| "Colin" | "Olsen" | "A21433593" |
| "Shellie" | "Riddle" | "A68803163" |
| "Doris" | "Jefferson" | "A56300786" |
| "Amos" | "Forbes" | "A26925548" |
| "Nero" | "Boone" | "A03884805" |
| "Madeson" | "Warner" | "A04487698" |
| "Delilah" | "Duncan" | "A52051977" |
| "Jared" | "Harrington" | "A41562808" |

Started streaming 46 records after 12 ms and completed after 22 ms.

3.7. Quiénes son los estudiantes que han tenido mas de 3 relaciones de pareja.

```
Match (n)-[r:PAREJA_DE]->()
with n, count(n.nombre) as Total_parejas
where Total_parejas > 3
return n.nombre as Nombre, n.apellido as Apellido, n.matricula as Matricula, Total_parejas;
```

```

1 Match (n)-[r:PAREJA_DE]->()
2 with n, count(n.nombre) as Total_parejas
3 where Total_parejas > 3
4 return n.nombre as Nombre, n.apellido as Apellido, n.matricula as Matricula,
   Total_parejas;

```

To enjoy the full Neo4j Browser experience, we advise you to use [Neo4j Browser Sync](#)

\$ Match (n)-[r:PAREJA_DE]->() with n, count(n.nombre) as Total_parejas where Total_parejas >...

| | Nombre | Apellido | Matricula | Total_parejas |
|--|-------------|-------------|-------------|---------------|
| | "Brock" | "Bernard" | "A32589759" | 4 |
| | "Aristotle" | "Hinton" | "A51580495" | 4 |
| | "Eaton" | "Cote" | "A94047993" | 4 |
| | "Inga" | "Garza" | "A71164918" | 4 |
| | "Dawn" | "Suarez" | "A70988801" | 4 |
| | "Leo" | "Odonnell" | "A21579101" | 4 |
| | "Duncan" | "Decker" | "A62413088" | 4 |
| | "Olympia" | "Sawyer" | "A40138007" | 4 |
| | "Mariam" | "Castaneda" | "A36080996" | 4 |
| | "Driscoll" | "Burris" | "A26332003" | 4 |

Started streaming 10 records after 53 ms and completed after 57 ms.

3.8. Dado un estudiante, determinar el número de estudiantes que él conoce.

```

Match (n {nombre: 'Lucy'})-[r:CONOCE_A]->()
return n.nombre as Nombre, n.apellido as Apellido, n.matricula as Matricula, count(n) as
Conoce_personas;

```

```

1 Match (n {nombre: 'Lucy'})-[r:CONOCE_A]->()
2 return n.nombre as Nombre, n.apellido as Apellido, n.matricula as Matricula, count(n)
   as Conoce_personas;

```

To enjoy the full Neo4j Browser experience, we advise you to use [Neo4j Browser Sync](#)

\$ Match (n {nombre: 'Lucy'})-[r:CONOCE_A]->() return n.nombre as Nombre, n.apellido as Apell...

| | Nombre | Apellido | Matricula | Conoce_personas |
|--|--------|-----------|-------------|-----------------|
| | "Lucy" | "Vaughan" | "A61171554" | 93 |

Started streaming 1 records after 25 ms and completed after 25 ms.

3.9. Dado un estudiante, determinar quiénes lo conocen a él.

```
Match (n:Estudiante)-[r:CONOCE_A]->(m:Estudiante {nombre: 'Moana'})
return n.nombre as Nombre, n.apellido as Apellido, n.matricula as Matricula;
```

1 Match (n:Estudiante)-[r:CONOCE_A]->(m:Estudiante {nombre: 'Moana'})
2 return n.nombre as Nombre, n.apellido as Apellido, n.matricula as Matricula;

To enjoy the full Neo4j Browser experience, we advise you to use [Neo4j Browser Sync](#)

\$ Match (n:Estudiante)-[r:CONOCE_A]->(m:Estudiante {nombre: 'Moana'}) return n.nombre as Nom...

| Nombre | Apellido | Matricula |
|------------|-------------|-------------|
| "Dai" | "Jensen" | "A80158910" |
| "Jescie" | "Gregory" | "A72102547" |
| "Driscoll" | "Burris" | "A26332003" |
| "Lucy" | "Vaughan" | "A61171554" |
| "Rogan" | "Madden" | "A10500044" |
| "Mariam" | "Castaneda" | "A36080996" |
| "Carly" | "Manning" | "A46030340" |
| "Inga" | "Joyner" | "A96576015" |
| "Justine" | "Pierce" | "A52765170" |
| "Griffith" | "Holcomb" | "A45716929" |
| "Xerxes" | "Pollard" | "A62109468" |
| "Delilah" | "Duncan" | "A52051977" |
| "Isabelle" | "Clark" | "A07362548" |
| "Yardley" | "Patel" | "A51174090" |
| "Lee" | "Stone" | "A10139172" |
| "Kelly" | "Gillespie" | "A22922952" |

Started streaming 67 records after 18 ms and completed after 28 ms.