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Course: MCS NoSQL (LAB 08)

#### Neo4J:

#### **Creating Nodes:**

```
1 CREATE(Dhawan:player{id:1, name: "shikar Dhawan", YOB: 1995, POB: "IND"})
2 CREATE(Jonathan:player {id:2, name: "Jonathan Trott", YOB: 1981, POB: "AUS"})
3 CREATE(Sangakkara:player {id:3, name: "Kumar Sangakkara", YOB: 1977, POB: "SLK"})
4 CREATE(Rohit:player {id:4, name: "Rohit Sharma", YOB: 1987, POB: "IND"})
5 CREATE(Virat:player {id:5, name: "Virat Kohli", YOB: 1988, POB: "IND"})
6 CREATE(Gayle:player {id:7, name: "Chris Gayle", YOB: 1979, POB: "JMC"})
7 CREATE(Ricky:coach {id:6, name: "Ricky Ponting", YOB: 1974, POB: "AUS"})
8 CREATE(Lan:coach {id:8, name: "Lan Botham", YOB: 1955, POB: "ENG"})
9 CREATE(Lee:coach {id:9, name: "Brett Lee", YOB: 1976, POB: "AUS"})
```

```
neo4j$ CREATE(Dhawan:player{id:1, name: "shikar Dhawan", YOB: 1995, POB: "IND"}) CREATE(Jonatha...

Added 9 labels, created 9 nodes, set 36 properties, completed after 81 ms.
```

```
1 CREATE (Ind:Country {name: "India"})
2 CREATE (Eng:Country {name: "England"})
3 CREATE (Jmc:Country {name: "Jamaica"})
4 CREATE (Aus:Country {name: "Australia"})
```

```
neo4j$ CREATE (Ind:Country {name: "India"}) CREATE (Eng:Country {name: "England"}) CREATE (Jmc:...

Added 4 labels, created 4 nodes, set 4 properties, completed after 7 ms.
```

#### **Creating Relationships:**

```
A 1 MATCH (a:player), (b:Country) WHERE a.name = "Shikar Dhawan" AND b.name = "India"
2 CREATE (a)-[r: BATSMAN_OF]→(b)
3 RETURN a,b
```

#### **Case Expressions:**

```
1 MATCH (n:player)
2 RETURN n.name,
3 CASE n.POB
4 WHEN n.POB = 'India' THEN 1
5 WHEN n.POB = 'Srilanka' THEN 2
6 ELSE 3
7 END AS Result
```

```
1 MATCH (n:player)
2 RETURN n.name,
3 CASE n.YOB
4 WHEN n.YOB > 1990 THEN 1
5 Else 2
6 END AS Result
```

#### **Boolean Operators**

```
neo4j$ MATCH (n) WHERE 1970 < n.YOB AND n.YOB ≤ 1985 RETURN n.name
```

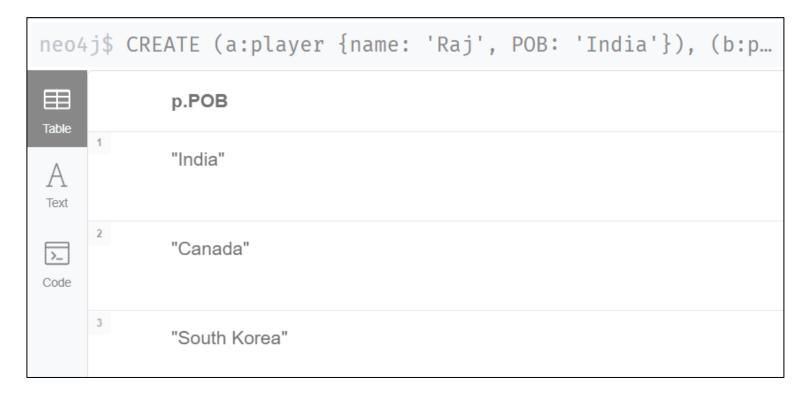


#### **Temporal Operators**



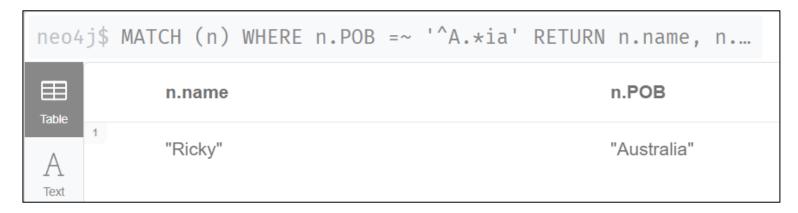
## **Distinct Operators**

```
1 CREATE
2  (a:player {name: 'Raj', POB: 'India'}),
3  (b:player {name: 'Kumar', POB: 'Canada'}),
4  (c:player {name: 'Hareesma', POB: 'India'}),
5  (d:player {name: 'Rohin', POB: 'South Korea'})
6 WITH [a, b, c, d] AS ps
7 UNWIND ps AS p
8 RETURN DISTINCT p.POB
```



### **String Operators**

```
1 MATCH (n)
2 WHERE n.POB =~ '^A.*ia'
3 RETURN n.name, n.POB
```



### **Property Operators**

- 1 MATCH (n)
  2 WHERE exists(n.YOB)
  3 RETURN n.name, n.YOB
- neo4j\$ MATCH (n) WHERE exists(n.YOB) RETURN n.name, n.YOB 田 n.YOB n.name "Shikar Dhawan" 1985 Α Text "Rohit" 1988 Code "Virat" 1992 "Sangakkara" 1977 1979 "Gayle"

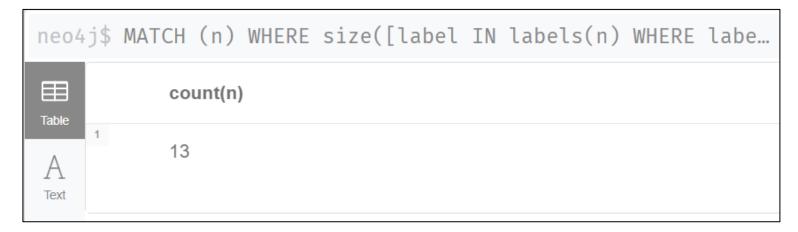
### **Map Operators: Static**

### **Map Operators: Dynamic**

{mykey:"name"}

```
A 1 WITH {player:{name: 'Raj', YOB: 1998}} AS a
2 RETURN a[$myKey] AS result
3
```

### **List Operators**



#### **Patterns:**

```
(virat)-->(india)
(virat)-->( india)<--(rohit)
(n:player)-->(india)
(virat)-[:BATSMAN_OF]->(India)
```

# **Temporal Values:**

```
1 Return date() as currentDate

2

Server is taking a long time to respond...

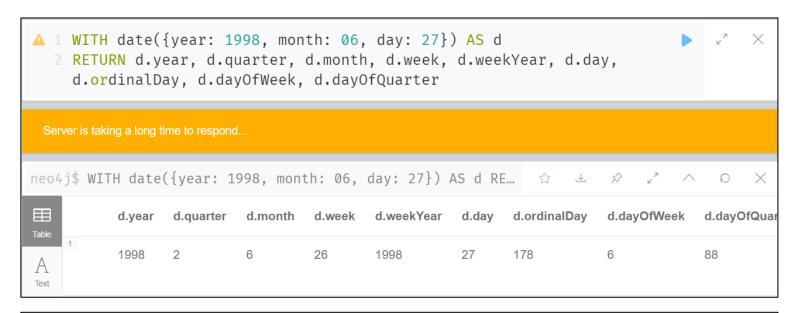
neo4j$ Return date() as currentDate

currentDate

1

A
Text

"2021-04-15"
```



## **Spatial Values:**

```
1 WITH
2  point({latitude:toFloat('13.83'), longitude:toFloat('56.10')})
   AS match1,
3  point({latitude:toFloat('13.25'), longitude:toFloat('56.61')})
   AS match2
4 RETURN toInteger(distance(match1, match2)/1000) AS km
```

#### List:

```
neo4j$ RETURN [x IN range(0,50) WHERE x % 3 = 0 ] AS result

Server is taking a long time to respond...

neo4j$ RETURN [x IN range(0,50) WHERE x % 3 = 0 ] AS result 

result

[0, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48]

A
Text
```

```
1 MATCH (n)
2 RETURN DISTINCT ([label IN labels(n)]) as result
3
```

```
neo4j$ MATCH (n) RETURN DISTINCT ([label IN labels(n)]) as... 
result

["player"]

["coach"]
```

# Map: