

Terna Engineering College
Computer Engineering Department

Program: Sem VII

Course: Big Data Analytics & Computational Lab -I (BDA&CL-I)

Experiment No. 04

PART B

(PART B: TO BE COMPLETED BY STUDENTS)

(Students must submit the soft copy as per the following segments within two hours of the practical. The soft copy must be uploaded on the Blackboard or emailed to the concerned lab in charge faculties at the end of the practical in case there is no Blackboard access available)

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Class: BE-COMPS-50	Batch: B3
Date of Experiment: 10-08-2021	Date of Submission: 10-08-2021
Grade :	

Aim: To study and run NoSql programs.

B.1 Use Neo4j Graph Based NoSql database:

For creating and showing the number of nodes and relations between them.

(Paste your Search material completed during the 2 hours of practical in the lab here)

DATABASE

NAME	TYPE	COLOR	FUEL	AFFORDABILITY	SPECIAL
Chevrolet Bolt	SubCompact	Red	Petrol	Economic	BEST DEAL
Kia Rio	SubCompact	Blue	Diesel	Lavish	-
Toyota Yaris	SubCompact	Black	CNG	Economic	-
Mini Cooper	SubCompact	White	Diesel	Lavish	-
Toyota Corolla	Compact	Black	CNG	Economic	-
Volkswagen Golf	Compact	White	Petrol	Lavish	-
Honda Fit	Compact	Blue	Diesel	Economic	20% Discount

Mazda 3	Compact	Red	Electric	Economic	-
BMW 320i	Sedan	Black	Electric	Lavish	20% Discount
Volkswagen Arteon	Sedan	Red	Diesel	Lavish	-
Mercedes-Benz C 300	Sedan	Blue	Petrol	Economic	20% Discount
KIA Stinger	Sedan	White	Electric	Economic	BEST DEAL
Audi A8	Luxury	Green	Petrol	Lavish	-
Rolls-Royce Phantom	Luxury	Black	Electric	Lavish	-
Bentley Bentayga	Luxury	Black	Petrol	Lavish	BEST DEAL
Mercedes-Benz S 550	Luxury	Red	Electric	Lavish	-

B.2 Input and Output:

(Command and its output in graph)

CREATE (n:Car{name:'Chevrolet Bolt',type:'Subcompact', color:'Red',fuel:'Petrol'})

CREATE (n:Car{name:'Kia Rio',type:'Subcompact', color:'Blue',fuel:'Diesel'})

CREATE (n:Car{name:'Toyota Yaris',type:'Subcompact', color:'Black',fuel:'CNG'})

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CREATE (n:Car{name:'Bentley Bentayga',type:'Luxury', color:'Black',fuel:'Petrol'})

CREATE (n:Car{name:'Mercedes-Benz S 550',type:'Luxury', color:'Red',fuel:'Electric'})

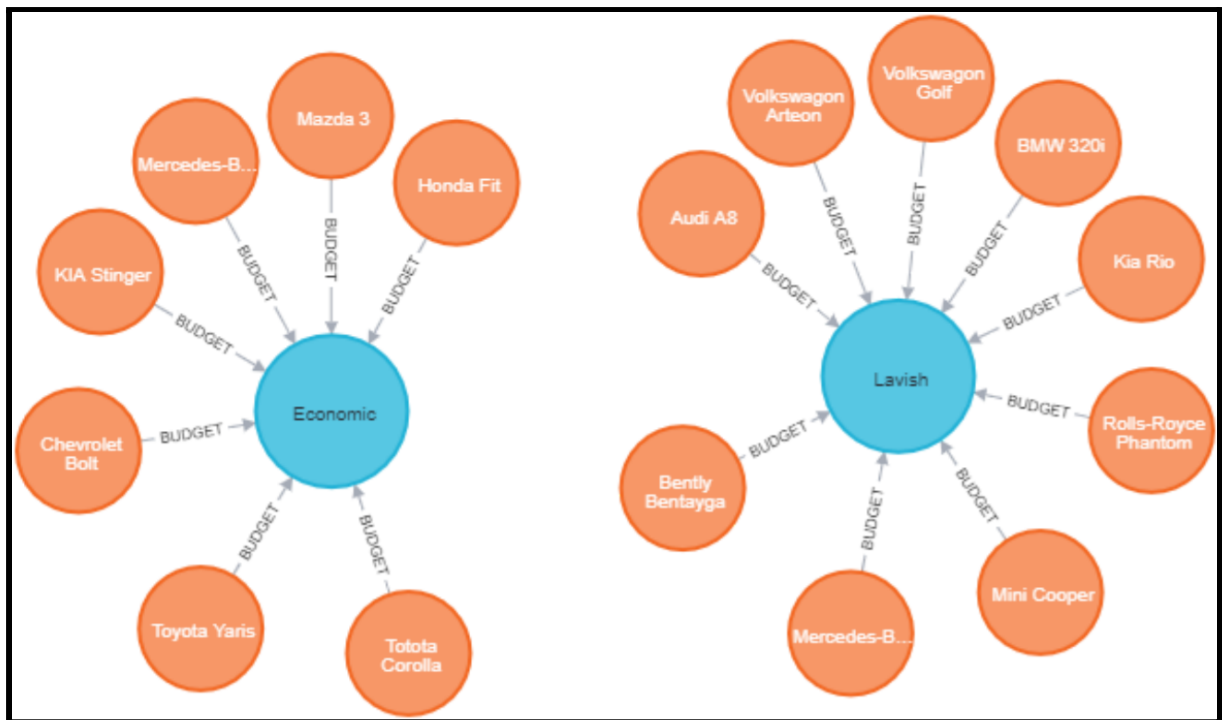
CREATE (n:affordability{name:'Lavish', cost:'500\$'})

CREATE (n:affordability{name:'Economic', cost:'250\$'})

MATCH (a:affordability), (c:Car)

WHERE a.name = 'Lavish' AND c.name='Mini Cooper'

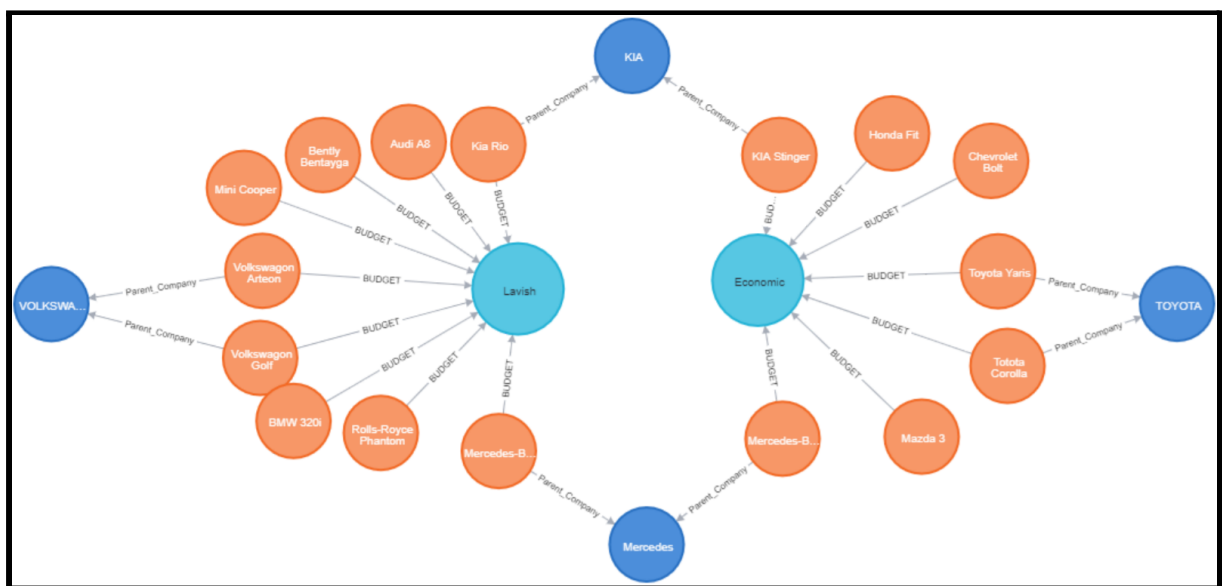
CREATE (c)-[aff:BUDGET]->(a)



```

CREATE (n:Company{name:'Toyota'})
CREATE (n:Company{name:'Mercedes'})
MATCH (p:Company), (c:Car)
WHERE p.name = 'Mercedes' AND c.name='Mercedes-Benz C 300'
CREATE (c)-[same:Parent_Company]->(p)

```



```

CREATE (n:Special{name:'BEST DEAL'})
CREATE (n:Special{name:'20% Discount'})
MATCH (s:special), (c:Car)
WHERE s.name = '20% Discount' AND c.name='Honda Fit'
CREATE (c)-[deal:OFFER]->(p)

```



B.3 Observations and learning:

(Students are expected to comment on the output obtained with clear observations and learning for each task/ sub part assigned)

Relationships are prioritised in graph databases, unlike conventional databases. This implies your programme won't have to rely on foreign keys or out-of-band processing techniques like MapReduce to infer data relationships.

A graph database's data model is also far more straightforward and expressive than that of relational or other NoSQL databases.

Graph databases are designed for use with transactional (OLTP) systems, with transactional integrity and operational availability as a priority.

B.4 Conclusion:

(Students must write the conclusion as per the attainment of individual outcome listed above and learning/observation noted in section B.3)

As a result, we were able to effectively construct a NoSQL graph using Neo4j.

B.5 Question of Curiosity

(To be answered by student based on the practical performed and learning/observations)

Q1) In which cases Neo4J is widely used?

Ans:

1. Fraud detection
2. Real-time recommendation engines
3. Master data management (MDM)
4. Network and IT operations
5. Identity and access management (IAM)

Q2) What is the difference between RDBMS and Graph Database?

Ans:

Index	Graph Database	RDBMS
1.	In the graph database, data is stored in graphs.	In RDBMS, data is stored in tables.
2.	In the graph database there are nodes.	In RDBMS, there are rows.
3.	In a graph database there are properties and their values.	In RDBMS, there are columns and data.
4.	In a graph database the connected nodes are defined by relationships.	In RDBMS, constraints are used instead of that.
5.	In graph database traversal is used instead of join.	In RDBMS, join is used instead of traversal.