

Graph Theory and its Applications

Assignment 4

Restaurant Recommender System

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About the Dataset :

For building the Restaurant Recommender System we use 8 main datasets

- Cuisine.csv
- Location.csv
- Person.csv
- Restaurant.csv
- Is_friend_of.csv
- Likes.csv
- Located.csv
- Serves.csv

Creating Nodes

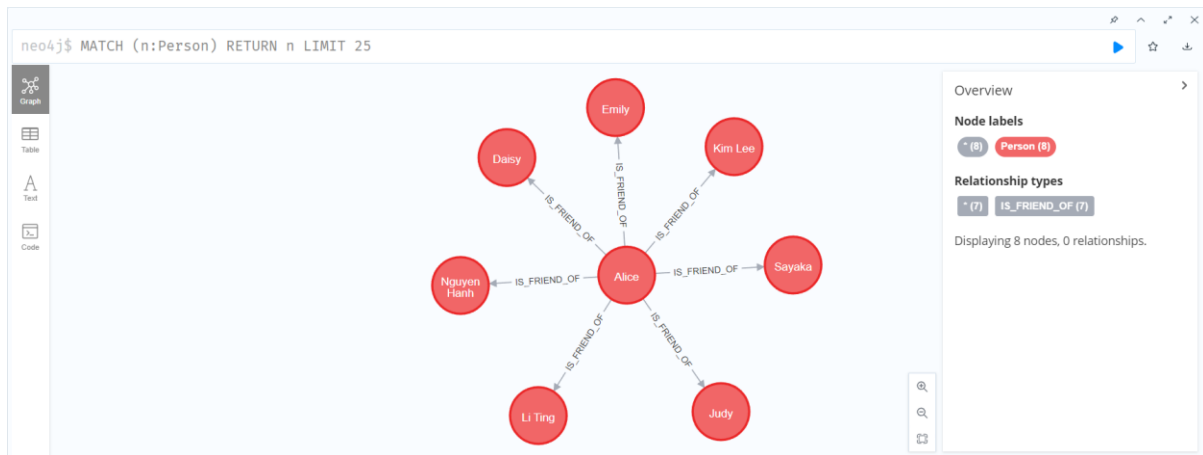
A. Cuisine



B. Location



C. Person

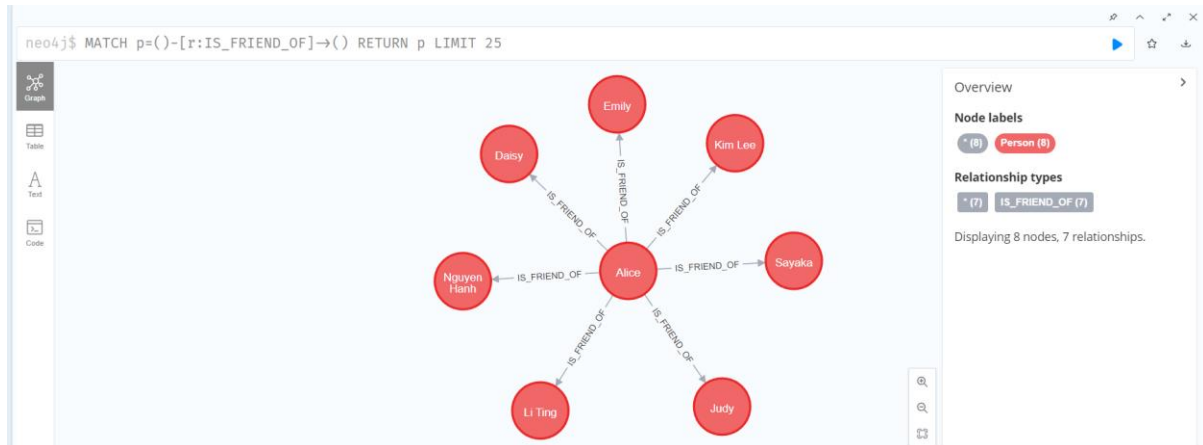


D. Restaurant

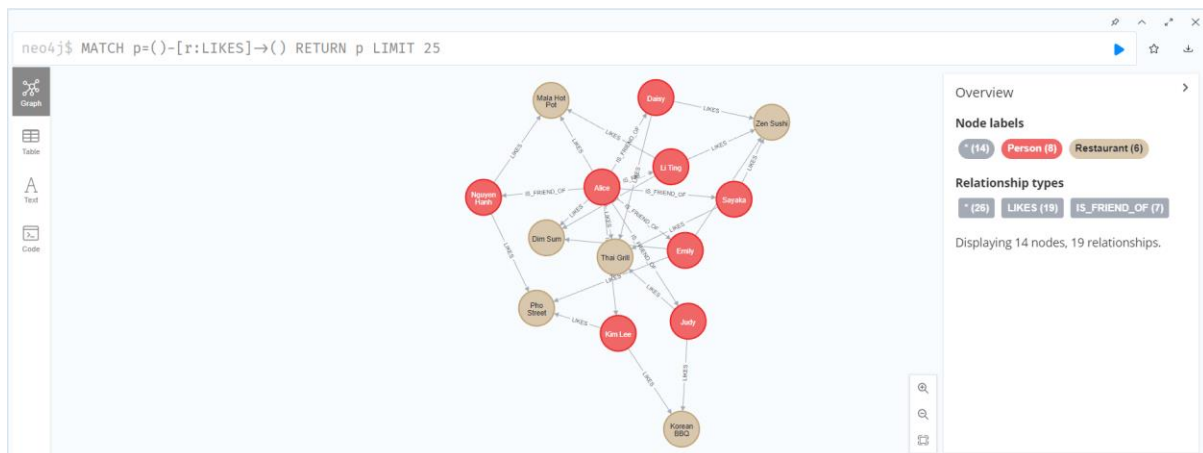


Creating Relation

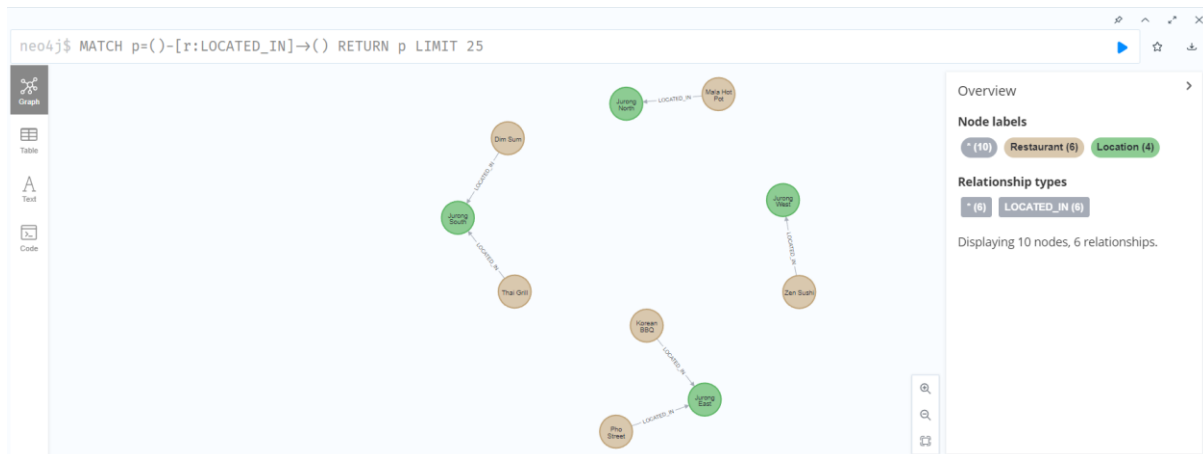
A. Is_friend_of



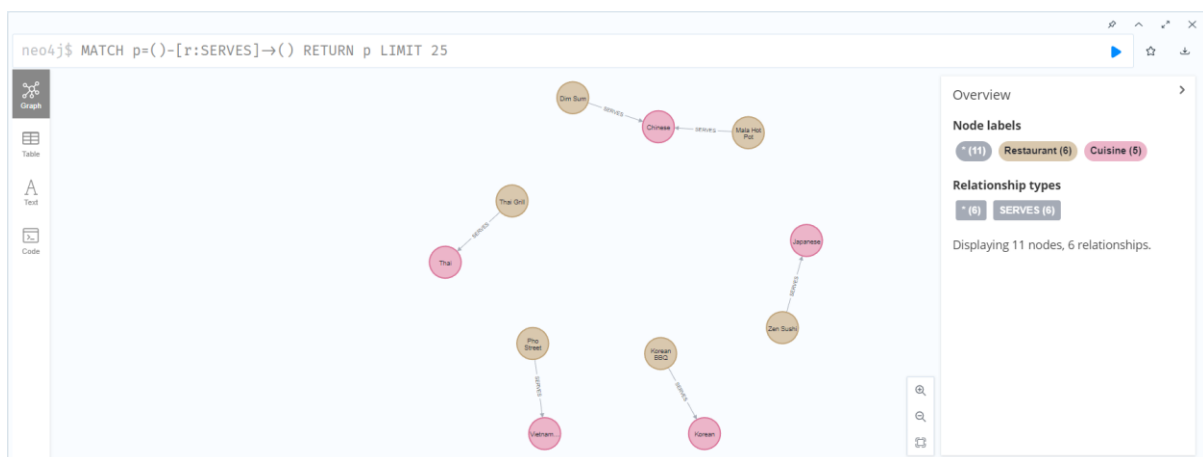
B. Likes



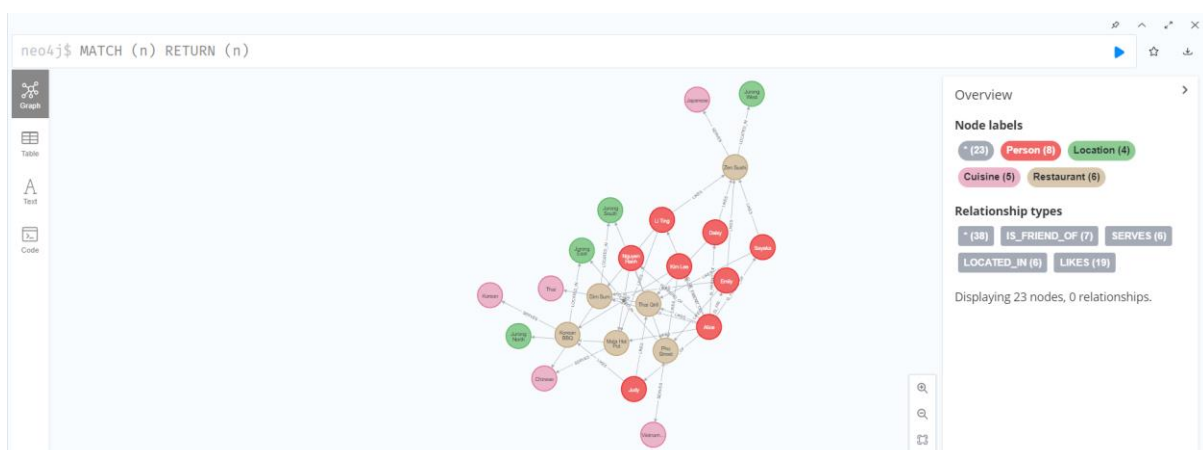
C. Located_in



D. serves



Whole Graph



Content Based Filtering :

neo4j\$ MATCH (restaurant:Restaurant)-[:LOCATED_IN]→(location), (restaurant)-[:SERVES]→(cuisine), (person:Person)-[:LIKES]→(...

	restaurant.name	likers	occurence
1	"Zen Sushi"	["Daisy", "Li Ting", "Emily", "Sayaka"]	4
2	"Thai Grill"	["Sayaka", "Daisy", "Judy", "Alice"]	4
3	"Mala Hot Pot"	["Li Ting", "Nguyen Hanh", "Alice"]	3
4	"Dim Sum"	["Li Ting", "Emily", "Alice"]	3
5	"Pho Street"	["Kim Lee", "Emily", "Nguyen Hanh"]	3
6	"Korean BBQ"	["Judy", "Kim Lee"]	2

Started streaming 6 records after 16 ms and completed after 16 ms.

Collaborative Filtering :

neo4j\$ MATCH (alice:Person {name:"Alice"}), (alice)-[:IS_FRIEND_OF]-(friend), (restaurant:Restaurant)-[:LOCATED_IN]→(location...

	restaurant.name	likers	occurence
1	"Zen Sushi"	["Li Ting", "Daisy", "Emily", "Sayaka"]	4
2	"Pho Street"	["Nguyen Hanh", "Emily", "Kim Lee"]	3
3	"Thai Grill"	["Daisy", "Sayaka", "Judy"]	3
4	"Dim Sum"	["Li Ting", "Emily"]	2
5	"Mala Hot Pot"	["Li Ting", "Nguyen Hanh"]	2
6	"Korean BBQ"	["Kim Lee", "Judy"]	2

Started streaming 6 records after 11 ms and completed after 12 ms.

Betweenness Centrality:

neo4j\$ CALL gds.graph.project('silmer_resturant',['Restaurant'],['LOCATED_IN'])

	nodeProjection	relationshipProjection	graphName	nodeCount	relationshipCount	projectMillis
1	{ "Restaurant": { "label": "Restaurant", "properties": { } } } }	{ "LOCATED_IN": { "orientation": "NATURAL", "aggregation": "DEFAULT", "type": "LOCATED_IN", "properties": { } } } }	"silmer_resturant"	6	0	11005

Started streaming 1 records after 2 ms and completed after 11011 ms.