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**ADS Lab ESE**

**Title:** Using Spatial data feature available in any database server, implement the following:

A] A schema to represent the geographic location of restaurants along with features such as the cuisine served at the restaurant and the level of expensiveness.

B] A query to find moderately priced restaurants that serve the Indian food and are within 5 miles of your house (assume any location from your home)

C] A query to find for each restaurant the distance from the nearest restaurant serving the same cuisine and with the same level of expensiveness.

**Database server used**: MySQL

**Introduction:** Spatial data can be referred to as geographic data or geospatial data. Spatial data provides the information that identifies the location of features and boundaries on Earth. Spatial data can be processed and analysed using Geographical Information Systems (GIS).

A] A schema to represent the geographic location of restaurants along with features such as the cuisine served at the restaurant and the level of expensiveness.

**Code:**

CREATE (Home {City: "Sangli", Lattitude: 16.8524, Longitude: 74.5815})-[:Home\_to\_restaurant]->({City: "Kolhapur", Lattitude: 16.7050, Longitude: 74.2433})<-[:College\_to\_restaurant]-({City: "Sangli",Lattitude: 16.8524, Longitude: 74.5815})-[:College\_to\_Home]->(Home)-[:Home\_to\_office]->({City: "Pune", Lattitude:18.5204, Longitude: 73.8567}),

({City: "Aashta", Lattitude: 17.696634, Longitude: 74.160721})<-[:Home\_to\_busstation]-(Home)-[:Home\_to\_school]->({City: "Sangli", Lattitude: 16.8524, Longitude: 74.5815})

MATCH path0 = (Home {City: "Sangli", Lattitude: 16.8524, Longitude: 74.5815})-[:Home\_to\_restaurant]->({City: "Kolhapur", Lattitude: 16.7050, Longitude: 74.2433})<-[:College\_to\_restaurant]-({City: "Sangli",Lattitude: 16.8524, Longitude: 74.5815})-[:College\_to\_Home]->(Home)-[:Home\_to\_office]->({City:"Pune", Lattitude:18.5204, Longitude: 73.8567}),

path1 = ({City: "Aashta", Lattitude: 17.696634, Longitude: 74.160721})<-[:Home\_to\_busstation]-(Home)-[:Home\_to\_school]->({City: "Sangli", Lattitude: 16.8524, Longitude: 74.5815})

RETURN path0, path1

**Output:**

B] A query to find moderately priced restaurants that serve the Indian food and are within 5 miles of your house (assume any location from your home)

**Query:**

WITH point({longitude: 74.58151, latitude: 16.8524}) AS P1, point({latitude: 16.8524, longitude: 74.5815}) AS P2

RETURN point.distance(P1, P2) AS DISTANCE

**Output:**

C] A query to find for each restaurant the distance from the nearest restaurant serving the same cuisine and with the same level of expensiveness.

**Query:**

WITH point({longitude: 74.2433, latitude: 16.7050}) AS P1, point({latitude: 17.696634, longitude: 74.160721}) AS P2

RETURN point.distance(P1, P2) AS DISTANCE

**Output:**

**Conclusion:** Implemented spatial data feature in MySQL.