

GISY 6021 – Assignment 3: Oracle Spatial

Query 1 – Identify the two airports that are closest to one another and give the distance in kilometres. What sort of aircraft would be required to fly between these two airports?

Table 1: The result set of Query 1, showing the two airports closest to each other in this data set.

Departure Airport	Arrival Airport	Distance (km)
Vancouver Harbour	Vancouver International	11.08

A helicopter or even a seaplane would be best suited for flying this short distance, though imagine how long it would take for a Concorde to fly this route...

Query 2 – Identify the two airports that are furthest apart and give the distance in kilometres. What sort of aircraft would be required to fly between these two airports?

Table 2: The result set of Query 2, showing the two airports furthest apart from each other.

Departure Airport	Arrival Airport	Distance (km)
Prince Rupert	St John's Intl	5228.66

These airports are on opposite ends of Canada – Prince Rupert on the Northwest coast of British Columbia, and St. John's on the Southeast coast of Newfoundland. A conventional passenger plane would be required to fly this route in one trip.

Query 3 – Tabulate the number of airports in each Canadian province. Use a spatial query to complete this task.

Table 3: The result set of Query 3, showing the number of airports in each Canadian province.

Province	Number of Airports in Each Province
British Columbia	23
Ontario	18
Quebec	15
Alberta	14
Manitoba	5
Saskatchewan	4
Newfoundland and Labrador	4
New Brunswick	3
Nova Scotia	1
Prince Edward Island	1

Query 4 – Which populated place has the most airports within 20 km and what are the airports within 20 km of this place?

Table 4a: The result set of Query 4a, showing the populated place which has the most airports within a 20 km radius.

Place Name	Number of Airports within 20 km of Place
New Westminster	4

Table 4b: The result set of Query 4b, listing the names of the airports within 20 km of New Westminster.

Place Name	Names of Airports within 20 km of Place
New Westminster	Vancouver Harbour
New Westminster	Vancouver International
New Westminster	Pitt Meadows
New Westminster	Boundary Bay

Query 5 – Tabulate the routes between airports that fly within 5 km of 45 or more populated places. A route is a linear geometry between airports. Assume that each airport is connected directly to every other airport in the dataset.

Table 5: The result set of Query 5, showing the names of the departure airport and the arrival airport of each route, and the number of places within 5 km of the entire length of the route. Only routes flying over 45 or more places are shown.

Departure Airport	Arrival Airport	Number of Places Within 5 km of Route Along Entire Length of Route
Gander International	London	58
Windsor	Gander International	53
Montréal-Pierre Elliott Trudeau International	St John's Intl	49
Gander International	Toronto City Centre	48
Deer Lake	Hamilton	46
Nanaimo	Montréal/St-Hubert	46
Oshawa	Gander International	46
Montréal/St-Hubert	Vancouver International	45