**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 |