**DAB203 Lab#3 [Marks 10]**

Use the SQLBook database for this lab.   
The Customers, Orders, and ZipCensus tables will be used for the queries.  
**Your query along with the results of the query should be pasted in Excel**.   
There are 7 questions, and each question should be answered on a different worksheet in Excel. Thus each worksheet will have query, results, and corresponding chart, if applicable. The worksheets should be named as Q1, Q2 and so on. **The first worksheet should have your Name and Student ID written.**  
Make sure to properly format the charts with Axis titles and legend where appropriate.  
**Upload the Excel file.**   
Marks Q1.-Q6.: 1.5, Q7. :1

Q1. Write a query to display the customer name, gender, corresponding zipcode, longitude and latitude. Make sure your query removes all the rows that have blank in the first name column. Copy and paste the results in Excel and draw a scatter plot for the customers locations. This map is for continental United States.

Q2. Write a query to display the count for each gender type. With the results, create a clustered column chart in Excel using the name ‘Other’ for the blank category.

Q3. Write a query to display the yearly distribution of number of orders (year>2010). With the results create a corresponding line chart in Excel.

Q4. Write a query to display the yearly distribution of number of orders (year>2010) and sum of number of units. With the results create a clustered column chart in Excel.

Q5. Write a query to display the distribution of gender (female and male) by years in Order (year>2010). With the results create a line chart and a stacked column in Excel.

Example of query output:

Year Female Male  
------- ---------- --------  
2011 10295 14079  
2012 …. ….  
… …. …..

Q6. Write a query for displaying the longitude, latitude, total populations of 20 zipcode areas that has the highest total population (totpop). With the results, create a bubble chart in Excel. This map is for continental United States.

Q7. Write a query for showing the zipcodes that in the Orders table but not in the Zipcensus table.

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| --- |
| select cu.firstname, cu.gender, or.ZipCode , zip.longitude, zip.latitude |
| from customers cu |
| join orders or |
| on cu.CustomerId = or.CustomerId |
| join ZipCounty zip |
| on or.ZipCode=zip.ZipCode |
| where cu.firstname != ''AND |
| (zip.latitude BETWEEN 20 AND 50) AND |
| (zip.longitude BETWEEN -130 AND -65); |

|  |
| --- |
| select gender, count(\*) as Gender\_Count |
| from customers |
| group by gender |
| order by gender desc |

|  |
| --- |
| select YEAR(OrderDate) as Year, count(\*) as "Number of Orders" |
| from Orders |
| group by YEAR(OrderDate) |
| having YEAR(OrderDate)>2010 |
| order by YEAR(OrderDate) |

|  |
| --- |
| select YEAR(OrderDate) as Year, |
| count(\*) as "Number of Orders", |
| sum(NumUnits) as "Sum of Number of Units" |
| from Orders |
| group by YEAR(OrderDate) |
| having YEAR(OrderDate)>2010 |
| order by YEAR(OrderDate) |

|  |
| --- |
| select YEAR(OrderDate) as Year, |
| count(case when Gender = 'F' then 1 end) as Female, |
| count(case when Gender = 'M' then 1 end) as Male |
| from Orders ord |
| join Customers cust |
| on ord.CustomerId=cust.CustomerId |
| group by YEAR(OrderDate) |
| having YEAR(OrderDate)>2010 |
| order by YEAR(OrderDate) |

|  |
| --- |
| select top 20 zcta5,longitude,latitude, sum(totpop) as Total\_Population |
| from ZipCensus |
| group by zcta5,longitude,latitude |
| order by 4 desc |

|  |
| --- |
| select ord.ZipCode |
| from orders ord |
| where ord.zipcode not in (select distinct zip.zcta5 from zipcensus zip) |
| group by ord.ZipCode |