

## SQL Queries & Data Visualizations:

Database: AdventureWorksLT2019

Query tool: any one you want

BI Tool: Microsoft Power BI

Notes::

- Sales \$ is either from SalesOrderHeader SubTotal or SalesOrderDetail Line Total
- Sales \$ means total sales unless specific group of sales mentioned such as Product Category Sales \$ or if drilled down in product hierarchy
- Customers (people) should be a concatenation of "lastname, firstname"
- Customer that is a company is actually a reseller such as a bike shop

Questions: SQL queries & data visualizations (visualizations requested below)

- a) Total sales \$
  - Using SalesOrderHeader (ties to customer)
  - Using SalesOrderDetail (ties to product)
  - Comparison querying with SalesOrderHeader vs SalesOrderDetail
- b) Total sales \$ by country – ranked/sorted (highest to lowest)
- c) Total sales \$ by country, state & city
- d) Total sales \$ by customer (person) – ranked/sorted (highest to lowest)
- e) Total sales \$ & by customer (company) – ranked/sorted (highest to lowest)
- f) Sales \$ by product category hierarchy – Product & vGetAllCategories
- g) Sales \$ by product name – ranked/sorted (highest to lowest)
- h) Sales \$ by Company (Reseller)
- i) Product Category Sales \$ by Company (Reseller)

## Data Visualizations

- a) Total sales \$
  - SalesOrderHeader (ties to customer)
    - Create Card
  - SalesOrderDetail (ties to product)
    - Create Card
- b) Total sales \$ by country – ranked/sorted (highest to lowest)
  - Create table & treemap
- c) Total sales \$ by country, state & city (be able to drill)
  - Create: filter (on country), table & matrix
  - Create: filter (on country), matrix & stacked bar
  - Create: filter (on country), matrix & treemap
  - Create map using location of city
- d) Total sales \$ by customer (person) – ranked/sorted (highest to lowest)
  - Create: filter (on country), table & stacked bar
- e) Total sales \$ & by customer (company) – ranked/sorted (highest to lowest)
  - Create: filter (on country), table & stacked bar
- f) Sales \$ by product category hierarchy – Product & vGetAllCategories (need to be able to drill)
  - Create: filter (on country), matrix, stacked bar & treemap
- g) Sales \$ by product name – ranked/sorted (highest to lowest)
  - Use table & treemap
- h) Sales \$ by Company (Reseller)
  - Create filter (on country), table & stacked bar
- i) Product Category Sales \$ by Company (Reseller)
  - Create filter (on country), table & stacked bar

### Deliverables:

- Submit a doc or text file with each query
  - List query
  - List totals for measures, such as sales, and total rows
- Submit an Excel document with the results of each query placed in its own worksheet
- Submit PDF generated from your Power BI with data visualizations
- Publish (or create) your visualizations on Power BI Service class workspace
  - Naming convention – AdventureWorksLT\_ + NU email (before @Northeastern.edu)
    - Example: AdventureWorksLT\_risherman