BMGT 404 Homework 8

1. **Please write all codes by yourself. Do not copy others and let others copy your codes. If you violate the academic integrity, you should be responsible for all outcomes.**
2. Submit your Python source codes by **2:00PM on Wednesday, May 11**[th] to ELMS.
3. Your submission should be one file (.docx, .doc, .pdf) containing all screenshots. **Without following this rule, you assignment will not be graded.**

- **Use the "Sample – Superstore Subset" Example Data Set in Tableau.**
- For each question, use the hints/listed components to create a visualization that will provide the information needed to answer the question. **Each question should be on visualization**.
- **Make sure you include all listed components in order to receive full credit for the question.**
- Provide a screen shot of the completed visualization (including any filters, calculated fields) from which you got your answer(s).
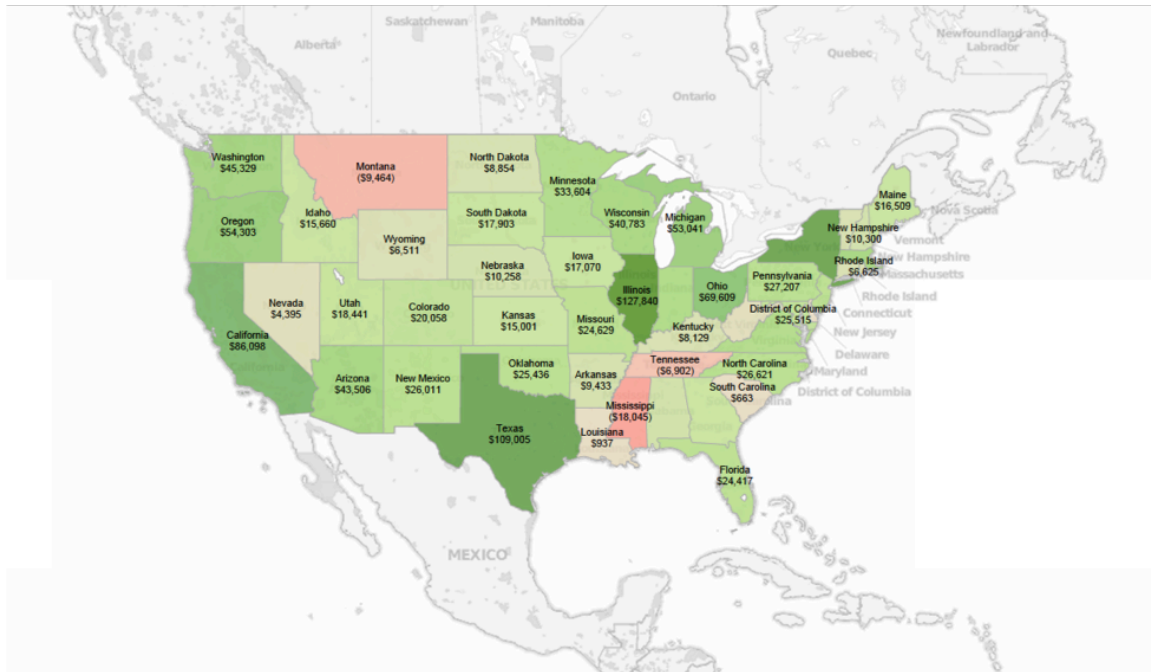
Example Question & Answer:

- Are there any states that have lost money? Which ones and how much have they lost?

- Required Components:
  1. U.S. Map
  2. A color scale for each state indicating profitable or not profitable
  3. Each state labeled with name
  4. Each state labeled with profit amount

Answer:

- **Montana ($9,464), Tennessee ($6,902), and Mississippi ($18,045)** are losing money.

Screen Shot:

Question 8.1: (10 points)
- Which state has the highest Sales (Sum)? What is the total Sales for that state?
- Required Components:
  - A Map of U.S.
  - A color scale indicating total sales
  - Each state labeled with state name
  - Each state labeled with total sales

Question 8.2: (10 points)
- Which customer segment has both the highest order quantity and average discount rate? What is the order quantity and average discount rate for that customer segment?
- Required Components:
  - Bar Chart displaying Order Quantity for each Customer Segment
  - A color scale indicating average discount rate
  - Each customer segment labeled with average discount rate
  - Each customer segment labeled with total Order Quantity

Question 8.3: (15 points)
- Which Product Category has the highest total Sales? Which Product Category has the worst Profit? Name the Product Category and $ amount for each.
- Required Components:
  - Bar Chart displaying total Sales for each Product Category

- o   A color scale indicating Profit
- o   Each Product Category labeled with total Sales
- o   Each Product Category labeled with Profit

Question 8.4: (15 points)
- o   **Use the same visualization created for Question 8.3**
- o   **What was the Profit on Office Supplies (Product Category) in Boca Raton (City) in 2011?**
- o   **Required Components:**
  - o   All components from Question 8.3
  - o   Filters for each of the Dimensions needed to create a visualization with only one Bar indicating the answer to the question
  - o   **Hint:** Use Filters

Question 8.5: (20 points)
- o   **Use a line chart**
- o   **Compare the total sales of different types of customer segments for each quarter in 2011-2014 among different regions.**
- o   **Required Components:**
  - o   A line chart displaying total Sales
  - o   Color scale indicating regions
  - o   Each line labeled with region name
  - o   Each line labeled with total Sales

Question 8.6: (30 points)
- o   **Use a geographic map**
- o   **Create a calculated field: Gross Profit Ratio = Profit/Sales**
- o   **Which state has the worst Gross Profit Ratio on Envelopes in the Corporate Customer Segment that were Shipped in 2012?**
- o   **Required Components:**
  - o   A map displaying information required to answer the question
  - o   A color scale indicating Gross Profit Ratio
  - o   Each state labeled with state name
  - o   Each state labeled with Gross Profit Ratio