## 5. Applying Filters

- **a.** From the browser window, sign in to SAS Viya for Learners.
- b. Open the VA1- Exercise3.3b report from the SAS Content/Courses/YVA183/Basics/Exercises (HR) folder.
  - Navigate to SAS Content/Courses/YVA183/Basics/Exercises (HR).
  - Right-click VA1- Exercise3.3b and select Edit.
- c. Add a data source filter to filter for active employees in the Sales Department.
  - 1) In the left pane, click the **Data** icon.
  - 2) In the Data pane, click | [E | (Actions) and select Apply data source filter.
    - a) Click **Operators** on the left.
    - b) Expand **Boolean**.
    - c) Double-click **AND** to add it to the expression.
    - d) On the left, click Data Items.
    - e) Expand Character.
    - f) Select Employee Status.
    - g) In the Conditions area, double-click **Employee Status = 'x'** to add it to the first condition in the expression area.
    - h) Enter **Active** as the string for the first condition.
    - i) In the Character group, select **Department**.
    - j) In the Conditions area, double-click **Department = 'x'** to add it to the second condition in the expression area.

k) Enter **Sales** as the string for the second condition.

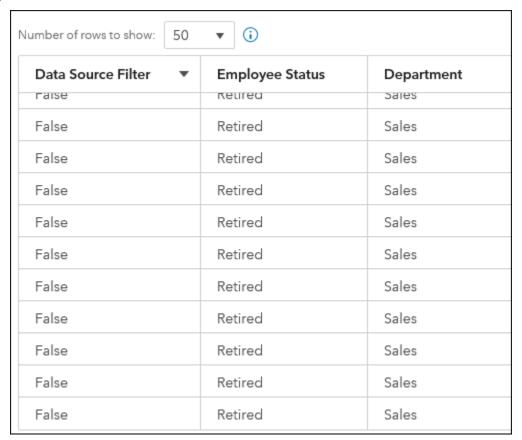
The expression should resemble the following:

```
Employee Status
AND
                                  Sales
            Department
```

The bottom of the Apply Data Source Filter window should resemble the following:

Returned observations: 429 Total observations: 647

- I) In the upper right corner, click (Preview result).
- m) Scroll down to the bottom of the list.

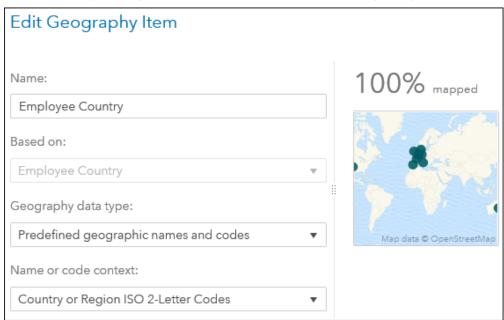


- n) Click Close to close the preview.
- 3) Click **OK** to apply the data source filter.

The Data pane should resemble the following:



- d. Change the classification for Employee Country to Geography ⇒ Country or Region ISO 2-Letter Codes.
  - 1) In the left pane, click the Data icon.
  - 2) Click | (Edit properties) next to Employee Country.
  - 3) Select Geography for the Classification field.
    - a) Verify that Predefined geographic names and codes is selected for the Geography data type field.
    - b) Select Country or Region ISO 2-Letter Codes for the Geography field.



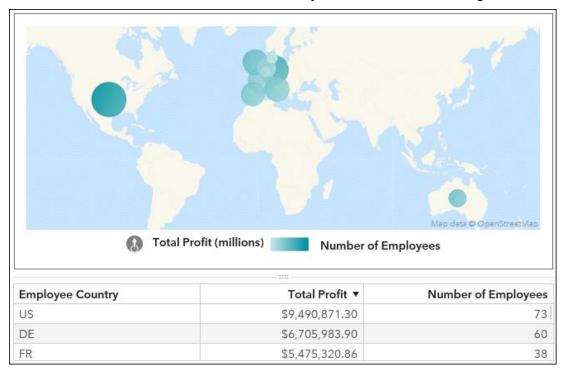
Notice 100% of countries are mapped for the geographic data item.

## 4) Click OK.

A new group, **Geography**, is added to the Data pane.



- e. On Page 4, create a geo map.
  - 1) In the upper left corner of the report, click the **Page 4** tab.
  - 2) In the left pane, click the Objects icon.
  - 3) Drag the **Geo Map** object, from the Graphs group, to the canvas.
  - 4) In the right pane, click the Roles icon.
  - 5) For the Category role, select **Add** ⇒ **Employee Country**.
  - 6) For the Size role, select **Number of Employees** ⇒ **Total Profit**.
  - 7) For the Color role, select **Add** ⇒ **Number of Employees**.
- **f.** Maximize the geo map and answer the questions.
  - 1) In the upper right corner of the chart, click [ (Maximize) to view additional details.
  - 2) In the detail data, click Total Profit twice to sort by that column in descending order.

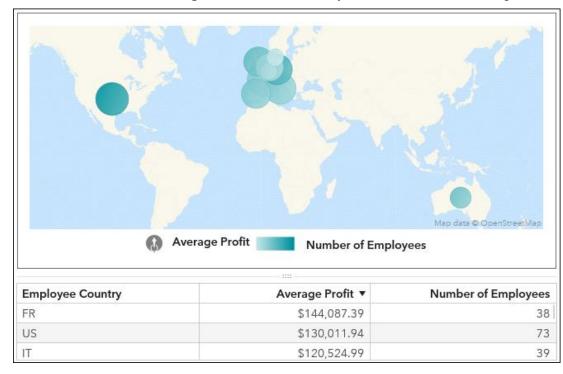


3) Answer the questions.

Management has decided that one possible criterion for promotion is profit generated. Which two countries generate the highest profit? Why do they have such high profits?

Answer: United States (\$9,490,871.30) and Germany (\$6,705,983.90) generate the highest total profit. These countries have more employees than other countries, which could explain the higher profits.

- 4) In the upper right corner, click (Restore).
- **g.** Modify the Size role for the geo map.
  - 1) Verify that the geo map is selected.
  - 2) In the right pane, click the Roles icon.
  - 3) For the Size role, select **Total Profit** ⇒ **Average Profit**.
- h. Specify Average Profit and Number of Employees by Country as the name of the bar chart.
  - 1) In the right pane, click the **Options** icon.
  - 2) If necessary, expand the **Object** section.
  - 3) Enter Average Profit and Number of Employees by Country in the Name field.
- i. Maximize the geo map and answer the question.
  - 1) In the upper right corner of the chart, click [ (Maximize) to view additional details.
  - 2) In the detail data, click Average Profit twice to sort by that column in descending order.



3) Answer the question.

With which country would you recommend starting the promotions if profit generated is one possible criterion for promotion?

Answer: I would recommend starting with United States, because although France has the highest average profit (\$144,087.39), they also have about half the number of employees as the United States. Because the US has a high number of employees and a high average profit, promotions in that country would have the largest impact.

- 4) In the upper right corner, click (Restore).
- j. Save the report in My Folder.
  - 1) To save the report, click (Menu) in the upper right corner and select Save As.
  - 2) Navigate to My Folder.
  - 3) Click Save.