Exercise 3A: Provide answers to questions asked. Support each answer with a relevant screenshot (s).

1. **Working with Data Items**
   1. Open the browser and sign in to SAS Viya.SAS Drive is displayed by default.
   2. Open the **VA1- Practice3.1** report from the **Courses/YVA185/Basics/Practices (HR)** folder.
      1. In the upper left corner, click  (**Show list of applications**) and select **Explore and Visualize**. SAS Visual Analytics appears.
      2. Click **All Reports**.
         1. In the Open window, navigate to the **Courses/YVA185/Basics/Practices (HR)** folder.
         2. Double-click the **VA1- Practice3.1** report to open it.
   3. View the items in the Data pane.
      1. In the left pane, click **Data**.
      2. Answer the questions.
2. What is the classification of **Employee ID (Category/Measure?)**? **Manager at 1. Level (Category/Measure?)**?

**Answer 1: Employee\_ID has a classification of category. Manager at 1. level has   
a classification of measure.**

**SS1:**

Graphical user interface, text, application

Description automatically generated Graphical user interface, application

Description automatically generated

1. What does the **Frequency** data item represent?
2. **Answer 2: Frequency represents the number of employees.**

**SS2:**

Graphical user interface, text, application

Description automatically generated

* 1. Change the classification for **Manager at 1. level** to **Category**.
     1. In the Measure group, next to **Manager at 1. level**, click  (**Edit properties**).
     2. For the **Classification** field, select **Category**.

**Manager at 1. level** should now appear in the Category group.

* 1. Change the format for **Annual Salary** to **Dollar13.2**.
     1. In the Measure group, next to **Annual Salary**, click  (**Edit properties**).
     2. For the **Format** field, click  (**Edit**).
        1. In the Format window, for the **Width** field, verify that **13** is specified.
        2. For the **Decimals** field, enter **2**.
        3. Click **OK**.
  2. Rename data items.
     1. In the Category group, next to **Employee ID**, click  (**Edit properties**).
     2. In the **Name** field, enter **ID** and press Enter.
     3. In the Category group, next to **Employee Name**, click  (**Edit properties**).
     4. In the **Name** field, enter **Name** and press Enter.
     5. In the Category group, next to **Manager at 1. level**, click  (**Edit properties**).
     6. In the **Name** field, enter **Manager ID** and press Enter.
     7. In the Measure group, next to **Frequency**, click  (**Edit properties**).
     8. In the **Name** field, enter **Number of Employees** and press Enter.
     9. Click  (**Actions**) and select **Refresh EMPLOYEES\_CLEAN** at the top of the Data pane to collapse the data item properties.
  3. Save the report.

Exercise 3B: Provide answers to questions asked. Support each answer with a relevant screenshot (s).

1. **Exploring Data: Part 1**
   1. Open the browser and sign in to SAS Viya. SAS Drive is displayed by default.
   2. Open the **VA1- Practice3.2a** report from the **Courses/YVA185/Basics/Practices (HR)** folder.
      1. In the upper left corner, click  (**Show list of applications**) and select **Explore and Visualize**. SAS Visual Analytics appears.
      2. Click **All Reports**.
         1. Navigate to the **Courses/YVA185/Basics/Practices (HR)** folder.
         2. Double-click the **VA1- Practice3.2a** report to open it.
   3. Create an automatic chart.
      1. In the left pane, click **Data**.
      2. Click the following data items (from measure Group and Aggregate Measure Group) to select them:

**Annual Salary**

**Frequency Percent**

* + 1. Drag the data items to the canvas.

The automatic chart functionality determines the best way to display the selected data.

Chart, histogram

Description automatically generated

* 1. Modify the options for the automatic chart.
     1. In the right pane, click **Options**.
     2. In the Object group, for the **Name** field, enter **Distribution of Salary**.
     3. In the Histogram group, for the **Bin range** field, select **Measure values (**from the Drop Down List).
     4. Select **Set a fixed bin count**.
     5. In the **Bin count** field, enter **4** and press Enter.

Graphical user interface, application, table

Description automatically generated

* 1. Maximize the histogram and answer the question.
     1. In the upper right corner of the chart, click  (**Maximize**) to view additional details. A detail table is displayed at the bottom of the chart.
     2. Click the highest bar in the graph.

Chart, bar chart

Description automatically generated

* + 1. Answer the question.

1. Into which range do the majority of salaries fall?

**Answer 1: More than 75% of salaries fall within the $25K to $30K range.**

**SS1:**

Chart, bar chart

Description automatically generated

* + 1. In the upper left corner, click  (**Restore**).
  1. Create a bar chart on the right of the automatic chart.
     1. In the left pane, click **Objects**.
     2. Drag the **Bar chart** object, from the Graphs group, to the right side of the canvas.
     3. In the right pane, click **Roles**.
     4. For the **Category** role, select **Add** ⇨ **Job Title**.
     5. For the **Measure** role, select **Number of Employees**  ⇨ **Annual Salary**.
     6. For the **Group** role, select **Add** ⇨ **Department**.

The bar chart should resemble the following:

Chart

Description automatically generated

* 1. Modify the name of the bar chart.
     1. In the right pane, click **Options**.
     2. In the Object group, for the **Name** field, enter **Total Salary by Job and Department**.
  2. Answer the questions.

1. In which department are a majority of our salary costs spent (Purchasing/Sales?)? For which job title?

**Answer 2: Sales department for the job title Sales Rep. I.**

**SS2:**

Chart

Description automatically generated

1. What could be some reasons why salary costs are so much higher for this group? **Perhaps most of the employees have this job title.**

**Hint: In the left pane, click Objects and For the Measure role, select Number of Employees**

**Answer 3:**

**SS3:**

A picture containing graphical user interface

Description automatically generated

ExerciseShape

Description automatically generated with low confidence 3C: Provide answers to questions asked. Support each answer with a relevant screenshot (s).

* 1. Open the browser and sign in to SAS Viya. SAS Drive is displayed by default.
  2. Open the **VA1- Practice3.2b** report from the **Courses/YVA185/Basics/Practices (HR)** folder.
     1. In the upper left corner, click  (**Show list of applications**) and select **Explore and Visualize**. SAS Visual Analytics appears.
     2. Click **All** **Reports**.
        1. Navigate to the **Courses/YVA185/Basics/Practices (HR)** folder.
        2. Double-click the **VA1- Practice3.2b** report to open it.
  3. On Page 2, create a box plot.
     1. In the upper left corner of the report, click the **Page 2** tab.
     2. In the left pane, click **Objects**.
     3. Drag the **Box plot** object, from the Graphs group, to the canvas.
     4. In the right pane, click **Roles**.
     5. For the **Category** role, select **Add** ⇨ **Job Title**.
     6. For the **Measures** role, select **Add** ⇨ **Annual Salary** and click **OK**.

The box plot should resemble the following:

Chart, box and whisker chart

Description automatically generated

* 1. Modify the options for the box plot.
     1. In the right pane, click **Options**.
     2. In the Object group, for the **Name** field, enter **Salary Analysis by Job Title**.
     3. In the Box Plot group, for the **Outliers** field, select **Show Outliers**.
     4. Select **Averages**.

The Options pane should resemble the following:

Graphical user interface, application

Description automatically generated

The box plot should resemble the following:

Chart, scatter chart, box and whisker chart

Description automatically generated

* 1. Maximize the box plot and answer the questions.
     1. In the upper right corner of the chart, click  (**Maximize**) to view additional details.
     2. In the detail table, click **Average** twice to sort by that column in descending order.

Table

Description automatically generated

1. Which job title has the highest average salary? The lowest?

**Answer 1:** The highest average salary is for Purchasing Agent III and the lowest is for Trainee.

**SS1:**

Table

Description automatically generated

2) Which job title has the largest number of outliers?

1. **Answer 2:** Sales Rep. I

**SS2:**

Chart, box and whisker chart

Description automatically generated

* + 1. In the upper right corner, click  (**Restore**).