

Chapter 9

Hiding Observations

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Chapter 9

Hiding Observations

You can *hide* observations to prevent them from appearing in graphs. You can *toggle* the display of observations to keep them from appearing in a graph unless they are selected. You can *slice* observations by dynamically toggling their display. These techniques are useful for adjusting the range of data displayed and for showing subsets of your data.

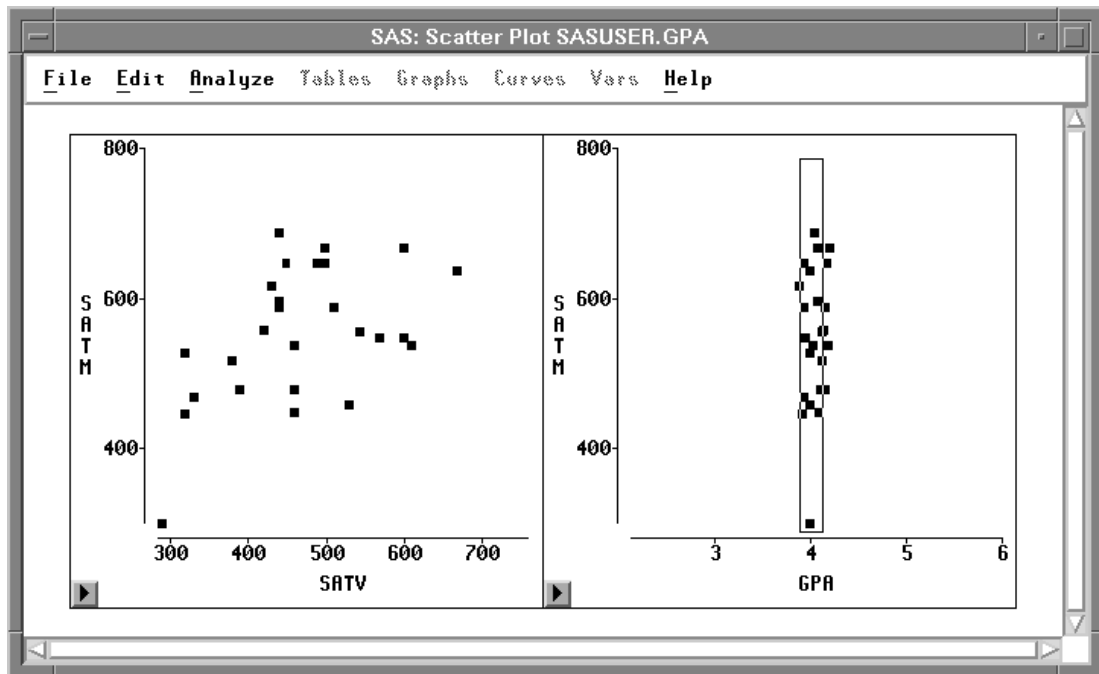


Figure 9.1. Slicing Observations

Hiding Individual Observations

You can adjust the range of data displayed and show subsets of your data by hiding observations.

† **Note:** Hiding observations in graphs does not exclude them from calculations. To exclude observations from calculations, see Chapter 21, “Comparing Analyses.”

⇒ **Open the GPA data set.**

⇒ **Create a scatter plot of SATM versus SATV.**

Use the techniques described in Chapter 5, “Exploring Data in Two Dimensions.”

⇒ **Select the two observations with values of SATM below 400.**

Use extended selection or drag a rectangle around both observations.

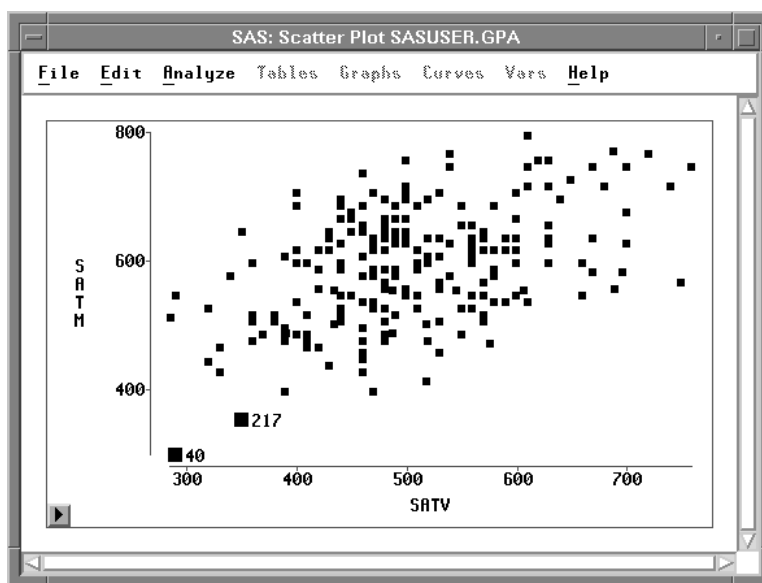


Figure 9.2. Observations Selected

⇒ **Choose Edit:Observations:Hide in Graphs.**

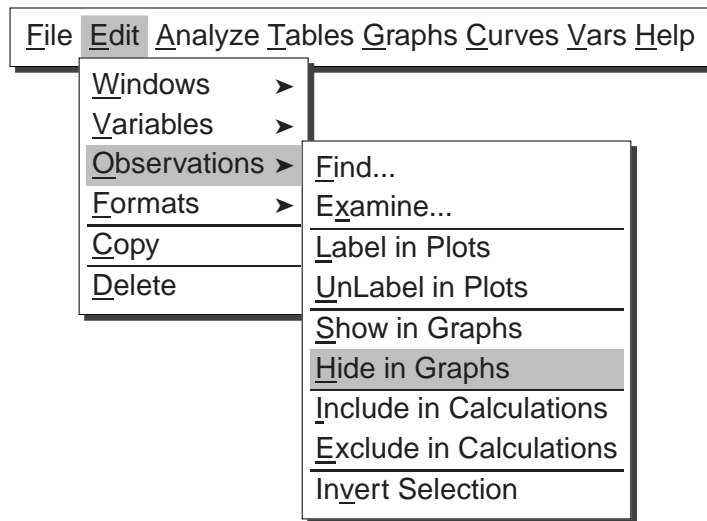


Figure 9.3. Edit: Observations Menu

This causes the selected observations to disappear from the graph. The graph rescales automatically. The new **SATM** axis starts at 400.

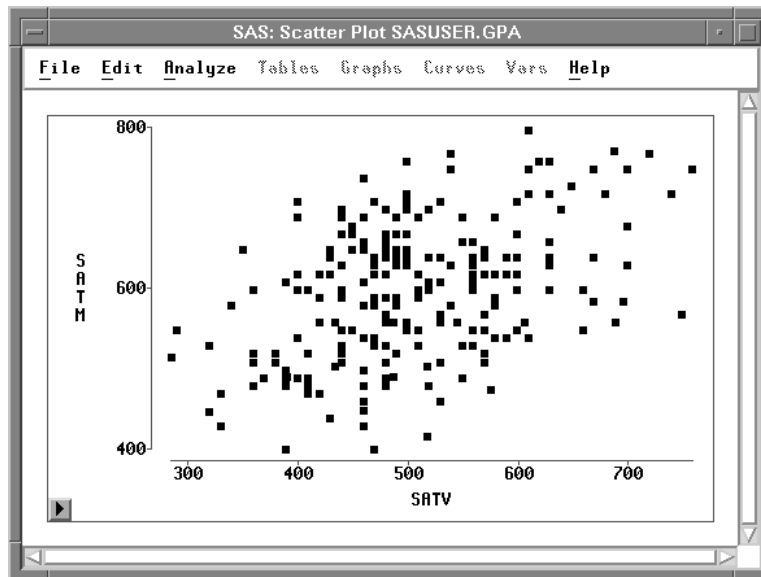


Figure 9.4. Observations Hidden

⇒ **Choose Find Next from the data window pop-up menu.**

This scrolls to the next selected observation and shows that the hidden observation has no marker. The absence of the marker in the data window indicates that the observation is hidden in *all* graphs.

	7	Int	Int	Int	Int	Int	Int	Nom
224	GPA	HSM	HSS	HSE	SATM	SATV	SEX	
40	4.00	2	4	6	300	290	Male	
41	3.43	10	9	9	750	610	Female	
42	4.48	8	9	6	650	460	Female	
43	5.73	10	10	9	720	630	Female	
44	4.43	7	10	10	530	560	Female	
45	3.69	7	6	7	560	480	Male	
46	5.80	10	10	9	760	500	Female	
47	5.18	10	10	10	570	750	Male	
48	6.00	9	10	10	640	480	Female	
49	6.00	9	9	8	800	610	Female	
50	4.00	9	6	5	640	670	Female	
51	5.06	9	10	9	590	420	Male	

Figure 9.5. Data Window after Hiding Observations

⇒ Choose **Edit:Observations:Show in Graphs.**

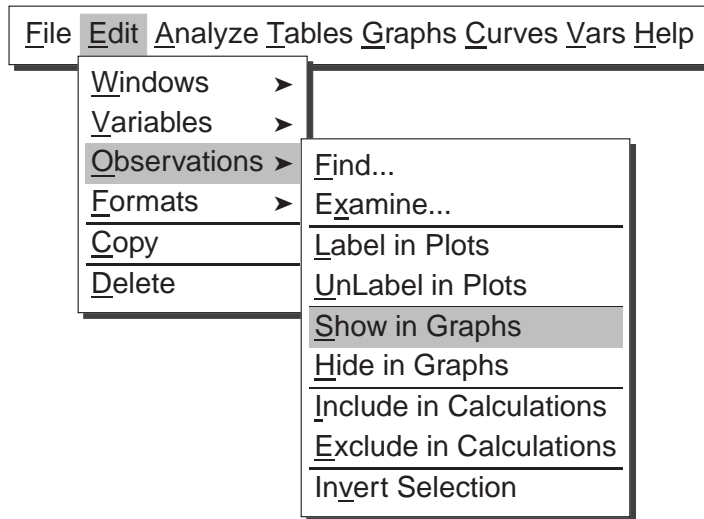


Figure 9.6. Edit: Observations Menu

This makes the observations visible again. The scatter plot rescales.

Toggleing the Display of Observations

You can show subsets of your data by toggling the display of observations. This causes observations to be displayed only when they are selected.

- ⇒ **Deselect all observations by clicking in any open area of a graph.**
- ⇒ **Choose `Edit:Windows:Renew` to redisplay the scatter plot variables dialog.**

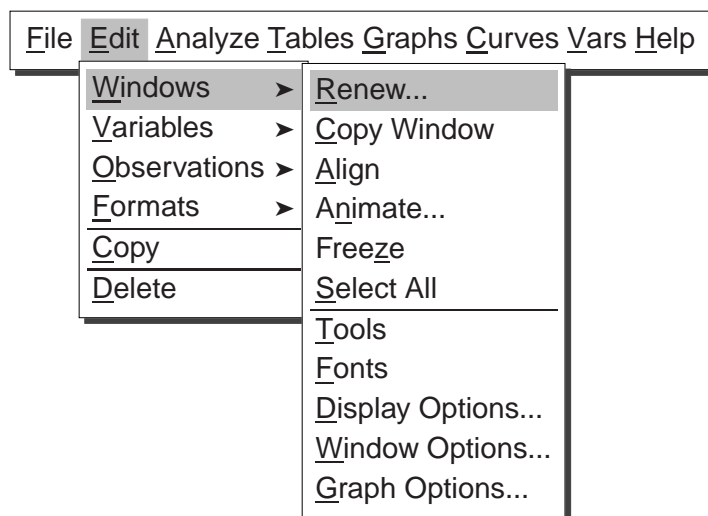


Figure 9.7. Edit:Windows Menu

- ⇒ **Click on `GPA` in the variables list and then click on the `X` button.**
This adds `GPA` to the `X` variables list.

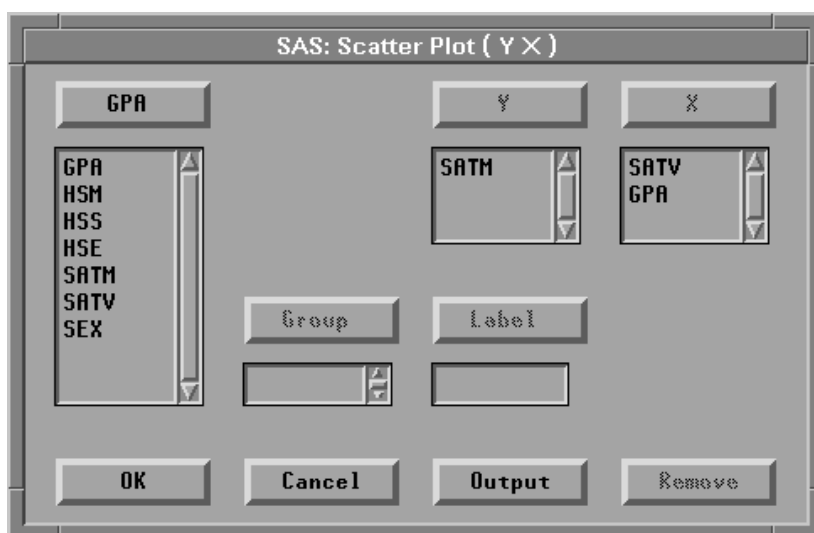


Figure 9.8. Variable Roles Assigned

- ⇒ **Click the `OK` button.**
This creates two scatter plots, as shown in Figure 9.9.

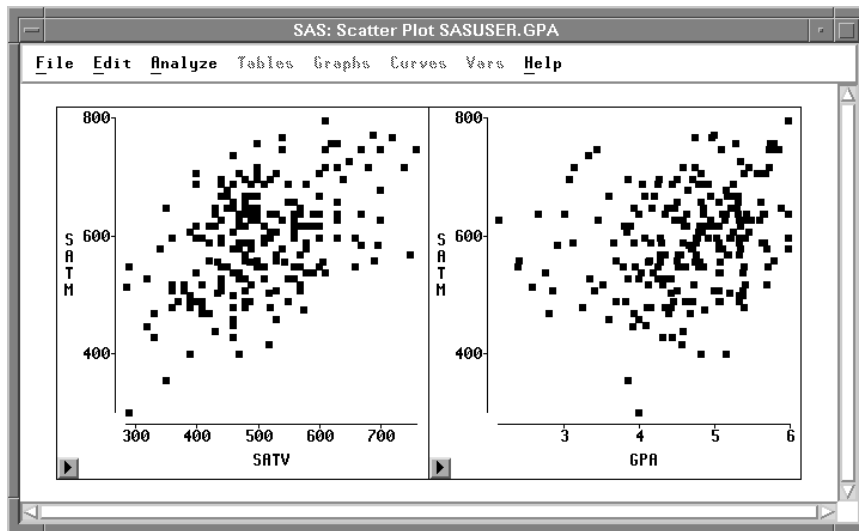


Figure 9.9. Scatter Plots

⇒ Click on the button at the lower left to display the scatter plot pop-up menu. Choose **Observations** to turn off the display of observations in the scatter plot.

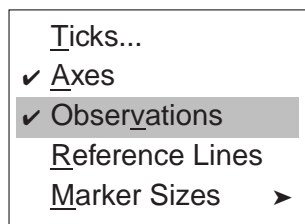


Figure 9.10. Scatter Plot Pop-up Menu

Do the same thing for the scatter plot on the right side. All the observation markers disappear, as shown in Figure 9.11.

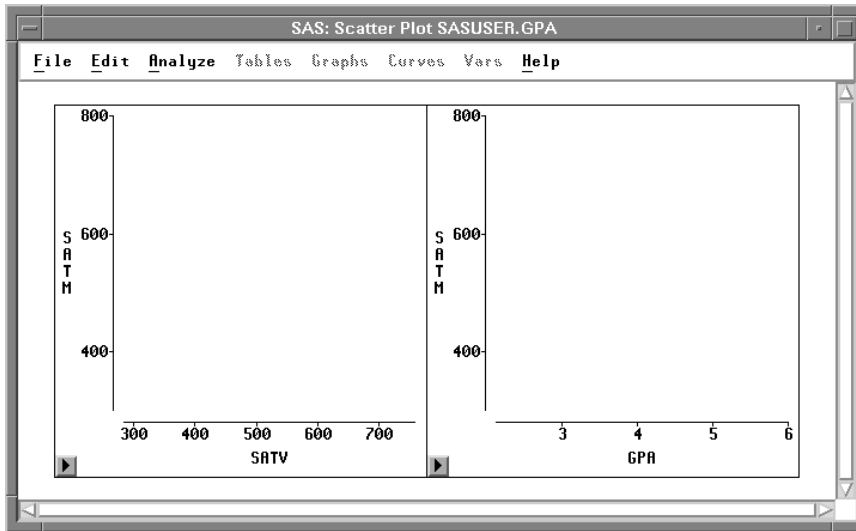


Figure 9.11. Turning Off Observations Display

⇒ Choose **Edit:Observations:Find**

This displays the Find Observations dialog. Select the variable **SEX**. With the default values in the other lists, this creates a test for **SEX = Female**.



Figure 9.12. Find Observations Dialog

⇒ Click the **OK** button.

This selects all **Female** observations and displays them in the scatter plots.

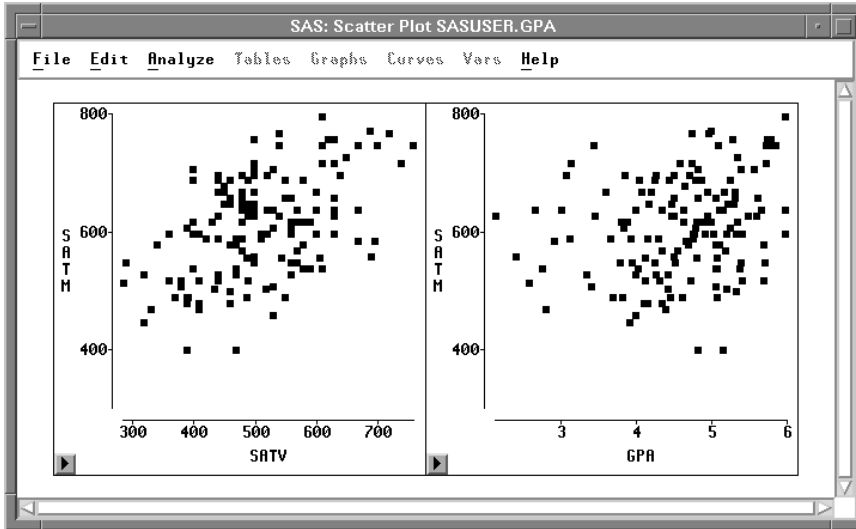


Figure 9.13. Female Observations

⇒ Choose **Edit:Observations:Invert Selection**. **Invert Selection** deselects all selected observations and selects all deselected observations. Now the scatter plots show all observations where **SEX** is **Male**.

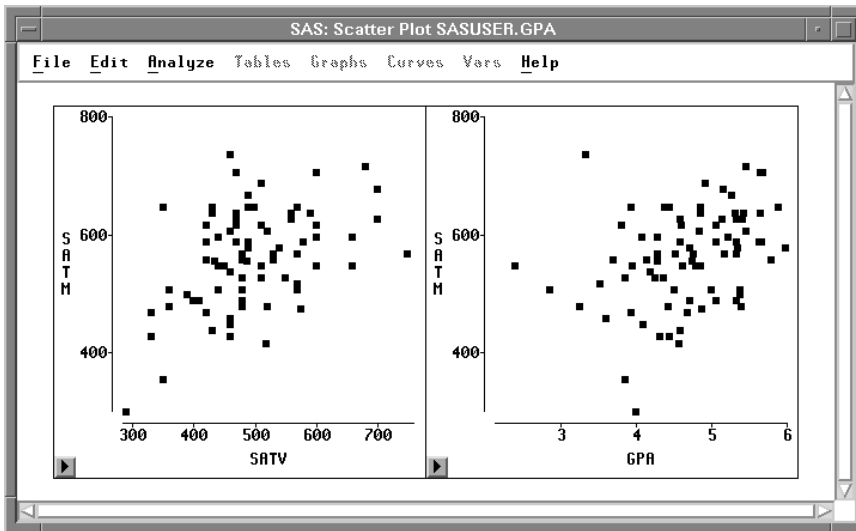


Figure 9.14. Male Observations

toggling observations in the scatter plots shows there are more females than males in these data. The female students appear to have slightly higher scores on the mathematics portion of the SAT exam.

Slicing

Slicing is a dynamic technique for subsetting your data based on a range of values for one variable. You can create a brush both to restrict the range of values in one plot and to select observations in all plots. You can slice dynamically to explore relationships in more than two dimensions.

Follow these steps to see how **GPA** is related to the two SAT scores.

- ⇒ **Drag a rectangle with the mouse in the scatter plot of SATM versus GPA.**
This selects the observations within the rectangle and creates a rectangular *brush*.
- ⇒ **Move the brush by dragging with the mouse inside the brush.**
Observations that are selected by the brush become visible in both scatter plots. The second plot shows the conditional distribution of the data as restricted by the position of the brush in the first plot.

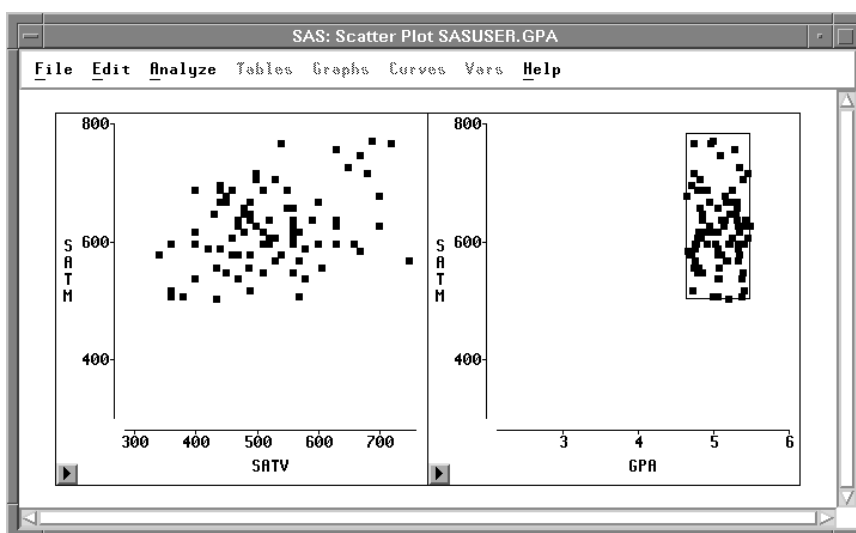


Figure 9.15. Brushing Invisible Observations

- ⇒ **Drag the corners of the brush to make it tall and thin.**
This restricts selected observations to a narrow range of values for **GPA**.
- ⇒ **Move the brush to the left and right.**
The scatter plot of **SATM** versus **SATV** in Figure 9.16 shows the joint distribution of the two SAT scores when **GPA** is near 4.0. By sliding the brush, you can see whether the distributions change significantly as **GPA** increases or decreases.

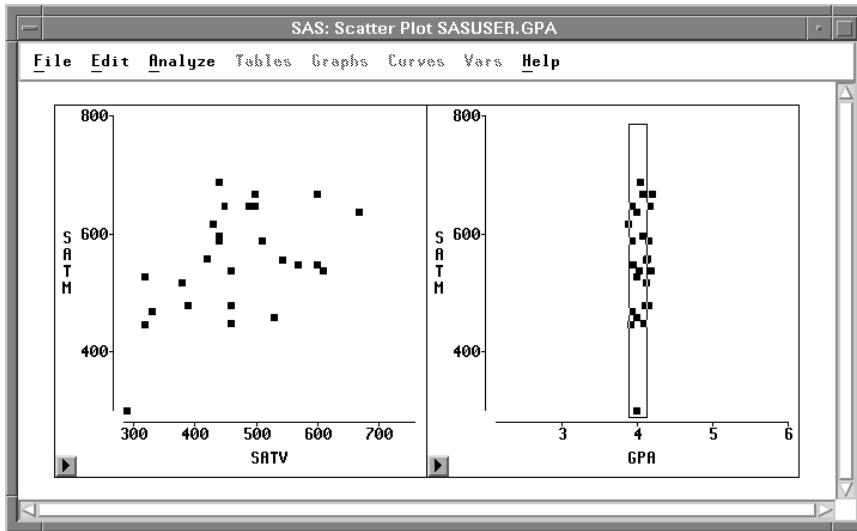


Figure 9.16. Slicing Observations

⇒ Use the scatter plot pop-up menu to make observations visible again.

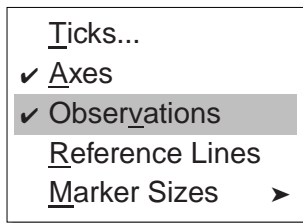


Figure 9.17. Scatter Plot Pop-up Menu

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