

Create a chart in Excel 2007

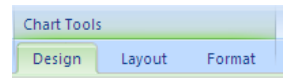
Create a chart

1. Select the data that you want to chart.
2. Click the **Insert** tab, in the **Charts** group, select the chart type for the chart you want to create, and then click the chart subtype.

Tip: To change the chart type after the chart is created, click inside the chart. On the **Design** tab, in the **Type** group, click **Change Chart Type**, and select another chart type.

Chart Tools


After your chart is inserted, the **Chart Tools** appear, with three tabs: **Design**, **Layout**, and **Format**. On these tabs you'll find the commands you need to work with charts. When you complete the chart, click outside the chart. The **Chart Tools** go away. To get them back, click inside the chart. Then the tabs reappear.



Change the chart view


After you create a chart, you can make your chart compare data in more than one way. Click in the chart. On the **Design** tab, in the **Data** group, click **Switch Row/Column**.

Change the chart layout

You can add chart and axis titles, add a data table, delete gridlines, or add data labels quickly by changing the chart layout. Click in the chart. Then on the **Design** tab, in the **Chart Layouts** group, click the **More** button  to see all the layouts. Click the one you want.

Another way to apply layouts is to click the **Layout** tab and make selections individually in the **Labels** and **Axes** groups.

Change the look of a chart

To change chart colors, click in the chart. Then on the **Design** tab, in the **Chart Styles** group, click the **More** button  to see all available colors. Then click the ones you want.

If you don't see colors you want, you can get other colors by clicking the **Page Layout** tab, and then clicking **Colors** in the **Themes** group. When you rest the pointer over a theme, the theme is shown in a temporary preview on the chart. You see the theme's effect before you apply it, saving you the step of undoing it if you don't like it. Click the one you like to apply it to the chart.

Important: The colors from the theme will be applied to other elements you add to the worksheet, such as tables, or cell styles.

Format chart titles

There are a number of options if you want to add formatting to chart or axis titles.

1. First, select a title.
2. Then, on the **Format** tab, in the **WordArt Styles** group, click the arrow beside **Text Fill** to add a color. You can also pick a gradient, or a texture. Or you can click the arrow beside **Text Outline** or **Text Effects** in the **WordArt Styles** group to add visual style to titles.

To make font changes, such as making the font larger or smaller, or to change the font face, click the **Home** tab, and then go to the **Font** group. Or you can make the same formatting changes by using the **Mini toolbar**. The toolbar appears in a faded fashion after you select text. If you point at the toolbar it becomes solid, and then you can select formatting options.

More formatting options

1. Select a data series (in a column chart, for example, that means that you would click one column to select all the columns for that person or region).

If you have any trouble selecting a series, click the **Format** tab, and then go to the **Current Selection** group. Click the arrow in the box at the top of the group, look for the name of the series you want, and then select it in the list.

2. On the **Format** tab, in the **Shape Styles** group, you can for example, click the arrow on **Shape Effects**, point to **Shadow**, and then rest the pointer on the different shadow styles in the list. You can see a preview of the shadows as you rest the pointer on each style. When you see one you like, select it.

Other options in the **Shape Styles** group are **Shape Fill**, where you can add a **Gradient** or a **Texture** to the column and **Shape Outline**.

Create and use a chart template

1. Click in the chart you want to save as a template.
2. On the **Design** tab, in the **Type** group, click **Save As Template**.
3. In the **Save Chart Template** dialog box, in the **File name** box, type a name for the template.
4. To use the template, select data for the chart. On the **Insert** tab, in the **Chart** group, click any chart type.
5. Click **All Chart Types**. In the **Change Chart Type** dialog box, click **Templates**. Select the template.

Add a chart to PowerPoint 2007

1. Copy the chart in Excel 2007.
2. Open PowerPoint 2007. Paste the chart on the slide you want it on.

The chart will automatically be updated in PowerPoint if it is revised in Excel unless you decide otherwise. You can select options on the **Paste Options** button in the lower right corner of the slide when you paste the chart in PowerPoint.

Available Chart Types

Column charts

Data that is arranged in columns or rows on a worksheet can be plotted in a column chart. Column charts are useful for showing data changes over a period of time or for illustrating comparisons among items.

In column charts, categories are typically organized along the horizontal axis and values along the vertical axis.

Column charts have the following chart subtypes:

- **Clustered column and clustered column in 3-D** Clustered column charts compare values across categories. A clustered column chart displays values in 2-D vertical rectangles. A clustered column in 3-D chart displays only the vertical rectangles in 3-D format; it does not display the data in 3-D format.
Note: To present data in a 3-D format that uses three axes (horizontal, vertical, and depth axes) that you can modify, you should use the 3-D column chart subtype.
You can use a clustered column chart type when you have categories that represent:
 - Ranges of values (for example, item counts in a histogram).
 - Specific scale arrangements (for example, a Likert scale with entries, such as strongly agree, agree, neutral, disagree, strongly disagree).
 - Names that are not in any specific order (for example, item names, geographic names, or the names of people).
- **Stacked column and stacked column in 3-D** Stacked column charts show the relationship of individual items to the whole, comparing the contribution of each value to a total across categories. A stacked column chart displays values in 2-D vertical stacked rectangles. A 3-D stacked column chart displays the vertical stacked rectangles in 3-D format; it does not display the data in 3-D format.

You can use a stacked column chart when you have multiple data series and when you want to emphasize the total.

- **100% stacked column and 100% stacked column in 3-D** These types of column charts compare the percentage each value contributes to a total across categories. A 100% stacked column chart displays values in 2-D vertical 100% stacked rectangles. A 3-D 100% stacked column chart displays the vertical 100% stacked rectangles in 3-D format; it does not display



the data in 3-D format. You can use a 100% stacked column chart when you have three or more data series and you want to emphasize the contributions to the whole, especially if the total is the same for each category.

- **3-D column** 3-D column charts use three axes that you can modify (a horizontal axis, a vertical axis, and a depth axis) and they compare data points (**data points**: Individual values plotted in a chart and represented by bars, columns, lines, pie or doughnut slices, dots, and various other shapes called data markers. Data markers of the same color constitute a data series.) along the horizontal and the depth axes.

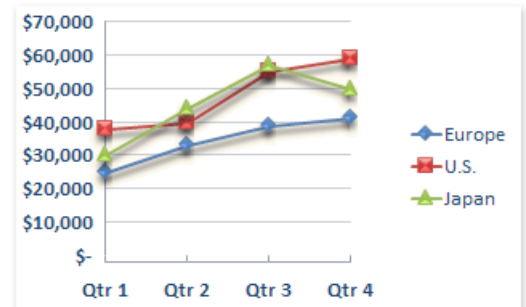
You can use a 3-D column chart when you want to compare data across the categories and across the series equally.

- **Cylinder, cone, and pyramid** Cylinder, cone, and pyramid charts are available in the same clustered, stacked, 100% stacked, and 3-D chart types that are provided for rectangular column charts, and they show and compare data exactly the same way. The only difference is that these chart types display cylinder, cone, and pyramid shapes instead of rectangles.

Line charts

Data that is arranged in columns or rows on a worksheet can be plotted in a line chart. Line charts can display continuous data over time, set against a common scale, and are therefore ideal for showing trends in data at equal intervals. In a line chart, category data is distributed evenly along the horizontal axis, and all value data is distributed evenly along the vertical axis.

You should use a line chart if your category labels are text, and are representing evenly spaced values such as months, quarters, or fiscal years. This is especially true if there are multiple series—for one series, you should consider using a category chart. You should also use a line chart if you have a few evenly spaced numerical labels, especially years. If you have more than ten numerical labels, use a scatter chart instead.



Line charts have the following chart subtypes:

- **Line and line with markers** Displayed with or without markers to indicate individual data values, line charts are useful to show trends over time or ordered categories, especially when there are many data points and the order in which they are presented is important. If there are many categories or the values are approximate, you should use a line chart without markers.
- **Stacked line and stacked line with markers** Displayed with or without markers to indicate individual data values, stacked line charts are useful to show the trend of the contribution of each value over time or ordered categories. If there are many categories or the values are approximate, you should use a stacked line chart without markers.

Tip: For a better presentation of this type of data, you may want to consider using a stacked area chart instead.

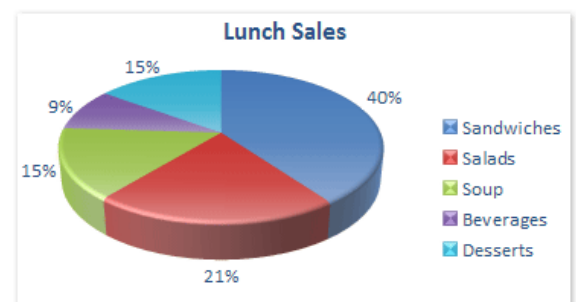
- **100% stacked line and 100% stacked line with markers** Displayed with or without markers to indicate individual data values, 100% stacked line charts are useful to show the trend of the percentage each value contributes over time or ordered categories. If there are many categories or the values are approximate, you should use a 100% stacked line chart without markers.

Tip: For a better presentation of this type of data, you may want to consider using a 100% stacked area chart instead.

- **3-D line** 3-D line charts show each row or column of data as a 3-D ribbon. A 3-D line chart has horizontal, vertical, and depth axes that you can modify.

Pie charts

Data that is arranged in one column or row only on a worksheet can be plotted in a pie chart. Pie charts show the size of items in one data series (**data series**: Related data points that are plotted in a chart. Each data series in a chart has a unique color or pattern and is represented in the chart legend. You can plot one or more data series in a chart. Pie charts have only one data series.), proportional to the sum of the items. The data points in a pie chart are displayed as a percentage of the whole pie.



Consider using a pie chart when:

- You only have one data series that you want to plot.
- None of the values that you want to plot are negative.
- Almost none of the values that you want to plot are zero values.
- You don't have more than seven categories.
- The categories represent parts of the whole pie.

Pie charts have the following chart subtypes:

- **Pie and pie in 3-D** Pie charts display the contribution of each value to a total in a 2-D or 3-D format. You can manually pull out the slices of a pie chart to emphasize them.
- **Pie of pie and bar of pie** Pie of pie or bar of pie charts display pie charts with user-defined values extracted from the main pie chart and combined into a second pie or into a stacked bar. These chart types are useful when you want to make small slices in the main pie easier to see.
- **Exploded pie and exploded pie in 3-D** Exploded pie charts display the contribution of each value to a total while emphasizing individual values. Exploded pie charts can be displayed in 3-D format. Because you cannot move the slices of an exploded pie individually, you may want to consider using a pie or pie in 3-D chart instead. You can then pull out the slices manually.

Bar charts

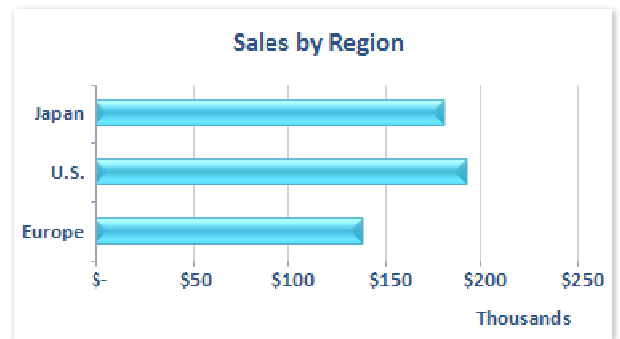
Data that is arranged in columns or rows on a worksheet can be plotted in a bar chart. Bar charts illustrate comparisons among individual items.

Consider using a bar chart when:

- The axis labels are long.
- The values that are shown are durations.

Bar charts have the following chart subtypes:

- **Clustered bar and clustered bar in 3-D** Clustered bar charts compare values across categories. In a clustered bar chart, the categories are typically organized along the vertical axis, and the values along the horizontal axis. A clustered bar in 3-D chart displays the horizontal rectangles in 3-D format; it does not display the data in 3-D format.
- **Stacked bar and stacked bar in 3-D** Stacked bar charts show the relationship of individual items to the whole. A stacked bar in 3-D chart displays the horizontal rectangles in 3-D format; it does not display the data in 3-D format.
- **100% stacked bar and 100% stacked bar in 3-D** This type of chart compares the percentage each value contributes to a total across categories. A 100% stacked bar in 3-D chart displays the horizontal rectangles in 3-D format; it does not display the data in 3-D format.
- **Horizontal cylinder, cone, and pyramid** Horizontal cylinder, cone, and pyramid charts are available in the same clustered, stacked, and 100% stacked chart types that are provided for rectangular bar charts, and they show and compare data exactly the same way. The only difference is that these chart types display cylinder, cone, and pyramid shapes instead of horizontal rectangles.



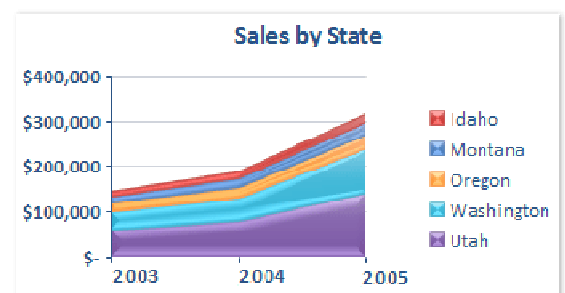
Area charts

Data that is arranged in columns or rows on a worksheet can be plotted in an area chart. Area charts emphasize the magnitude of change over time, and can be used to draw attention to the total value across a trend. For example, data that represents profit over time can be plotted in an area chart to emphasize the total profit.

By displaying the sum of the plotted values, an area chart also shows the relationship of parts to a whole.

Area charts have the following chart subtypes:

- **Area and area in 3-D** Area charts display the trend of values over time or categories. An area chart in 3-D displays the same but presents the areas in a 3-D format; it does not display the data in 3-D format. To present data in a 3-D format that uses



three axes (horizontal, vertical, and depth axes) that you can modify, you should use the 3-D area chart subtype. As a general rule, you should consider using a line chart instead of a non-stacked area chart.

- **Stacked area and stacked area in 3-D** Stacked area charts display the trend of the contribution of each value over time or categories. A stacked area chart in 3-D displays the same but presents the areas in a 3-D format; it does not display the data in 3-D format. To present data in a 3-D format that uses three axes (horizontal, vertical, and depth axes) that you can modify, you should use the 3-D area chart subtype.
- **100% stacked area and 100% stacked area in 3-D** 100% stacked area charts display the trend of the percentage each value contributes over time or categories. A 100% stacked area chart in 3-D displays the same but presents the areas in a 3-D format; it does not display the data in 3-D format. To present data in a 3-D format that uses three axes (horizontal, vertical, and depth axes) that you can modify, you should use the 3-D area chart subtype.
- **3-D area** 3-D area charts display the trend of values over time or categories by using three axes (horizontal, vertical, and depth axes) that you can modify.

XY (scatter) charts

Data that is arranged in columns and rows on a worksheet can be plotted in an xy (scatter) chart. Scatter charts show the relationships among the numeric values in several data series, or plots two groups of numbers as one series of xy coordinates.

A scatter chart has two value axes, showing one set of numerical data along the horizontal axis (x-axis) and another along the vertical axis (y-axis). It combines these values into single data points and displays them in uneven intervals, or clusters. Scatter charts are commonly used for displaying and comparing numeric values, such as scientific, statistical, and engineering data.

Consider using a scatter chart when:

- You want to change the scale of the horizontal axis.
- You want to make that axis a logarithmic scale.
- Values for horizontal axis are not evenly spaced.
- There are many data points on the horizontal axis.
- You want to effectively display worksheet data that includes pairs or grouped sets of values and adjust the independent scales of a scatter chart to reveal more information about the grouped values.
- You want to show similarities between large sets of data instead of differences between data points.
- You want to compare large numbers of data points without regard to time—the more data that you include in a scatter chart, the better the comparisons that you can make.

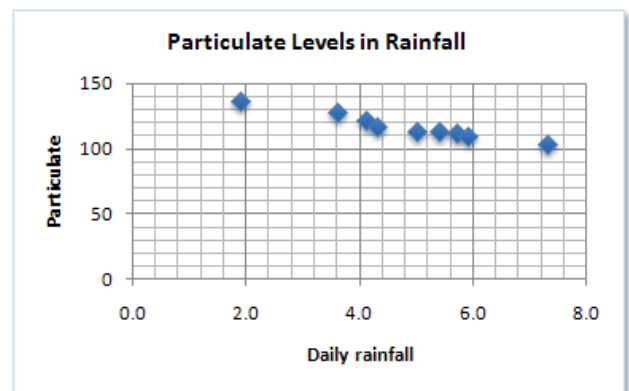
To arrange data on a worksheet for a scatter chart, you should place the x values in one row or column, and then enter the corresponding y values in the adjacent rows or columns.

Scatter charts have the following chart subtypes:

- **Scatter with only markers** This type of chart compares pairs of values. Use a scatter chart without lines when you have data in a specific order.
- **Scatter with smooth lines and scatter with smooth lines and markers** This type of chart can be displayed with or without a smooth curve connecting the data points. These lines can be displayed with or without markers. Use the scatter chart without markers if there are many data points.
- **Scatter with straight lines and scatter with straight lines and markers** This type of chart can be displayed with or without straight connecting lines between data points. These lines can be displayed with or without markers.

Stock charts

Data that is arranged in columns or rows in a specific order on a worksheet can be plotted in a stock chart. As its name implies, a stock chart is most often used to illustrate the fluctuation of stock prices. However, this chart may also be used for scientific data. For example, you could use a stock chart to indicate the fluctuation of daily or annual temperatures. You must organize your data in the correct order to create stock charts.

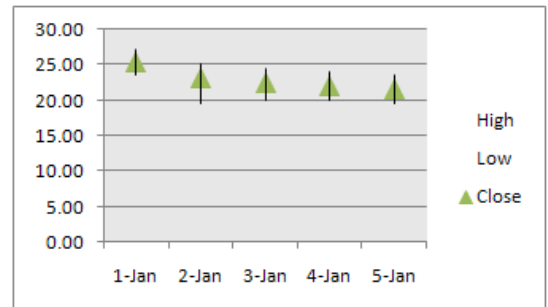


The way stock chart data is organized in your worksheet is very important. For example, to create a simple high-low-close stock chart, you should arrange your data with High, Low, and Close entered as column headings, in that order.

Date	High	Low	Close
1-Jan	27.20	23.49	25.45
2-Jan	25.03	19.55	23.05
3-Jan	24.46	20.03	22.42
4-Jan	23.97	20.07	21.90
5-Jan	23.65	19.50	21.51

Stock charts have the following chart sub-types:

- **High-low-close** The high-low-close chart is often used to illustrate stock prices. It requires three series of values in the following order: high, low, and then close.
- **Open-high-low-close** This type of chart requires four series of values in the correct order (open, high, low, and then close).
- **Volume-high-low-close** This type of chart requires four series of values in the correct order (volume, high, low, and then close). It measures volume by using two value axes: one for the columns that measure volume, and the other for the stock prices.
- **Volume-open-high-low-close** This type of chart requires five series of values in the correct order (volume, open, high, low, and then close).



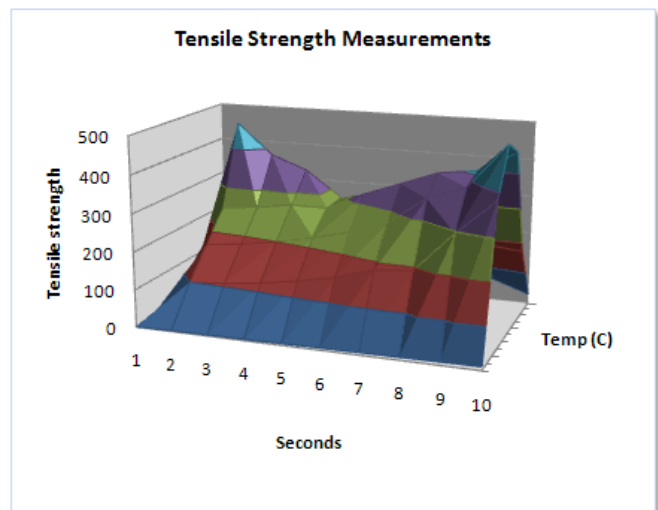
Surface charts

Data that is arranged in columns or rows on a worksheet can be plotted in a surface chart. A surface chart is useful when you want to find optimum combinations between two sets of data. As in a topographic map, colors and patterns indicate areas that are in the same range of values.

You can use a surface chart when both categories and data series are numeric values.

Surface charts have the following chart subtypes:

- **3-D surface** 3-D surface charts show trends in values across two dimensions in a continuous curve. Colors in a surface chart do not represent the data series; they represent the distinction between the values.
- **Wireframe 3-D surface** Displayed without color, a 3-D surface chart is called a wireframe 3-D surface chart.



Note: Without color, a wireframe 3-D surface chart is not easy to read. You may want to use a 3-D surface chart instead.

- **Contour and wireframe contour** Contour and wireframe contour charts are surface charts viewed from above. In a contour chart, colors represent specific ranges of values. A wireframe contour chart is displayed without color.

Note: Contour or wireframe contour chart are not easy to read. You may want to use a 3-D surface chart instead.

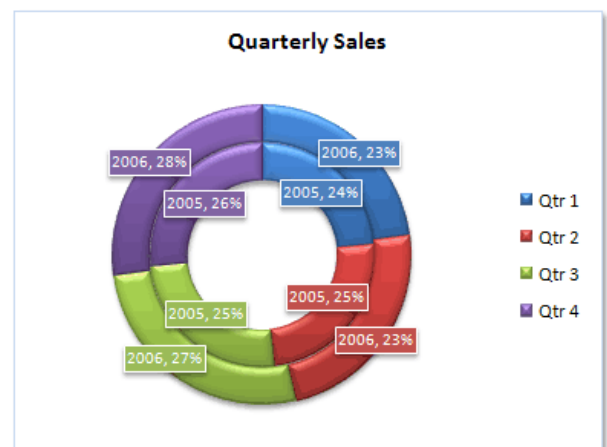
Doughnut charts

Data that is arranged in columns or rows only on a worksheet can be plotted in a doughnut chart. Like a pie chart, a doughnut chart shows the relationship of parts to a whole, but it can contain more than one data series.

Note: Doughnut charts are not easy to read. You may want to use a stacked column or stacked bar chart instead.

Doughnut charts have the following chart subtypes:

- **Doughnut** Doughnut charts display data in rings, where each ring represents a data series. For example, in the previous chart, the inner ring represents gas tax revenues, and the outer ring represents property tax revenues.
- **Exploded Doughnut** Much like exploded pie charts, exploded



doughnut charts display the contribution of each value to a total while emphasizing individual values, but they can contain more than one data series.

Bubble charts

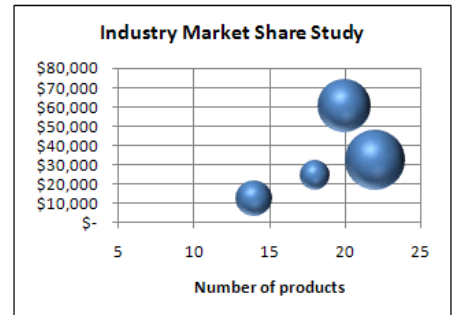
Data that is arranged in columns on a worksheet so that x values are listed in the first column and corresponding y values and bubble size values are listed in adjacent columns, can be plotted in a bubble chart.

For example, you would organize your data as shown in the following example.

Bubble charts have the following chart subtypes:

- **Bubble and bubble with 3-D effect** Bubble charts are similar to xy (scatter) chart, but they compare sets of three values instead of two. The third value determines the size of the bubble marker. You can choose a bubble or a bubble with a 3-D effect chart subtype.

Number of products	Sales	Market Share %
14	\$12,200.00	15%
20	\$60,000.00	33%
18	\$24,400.00	10%
22	\$32,000.00	42%

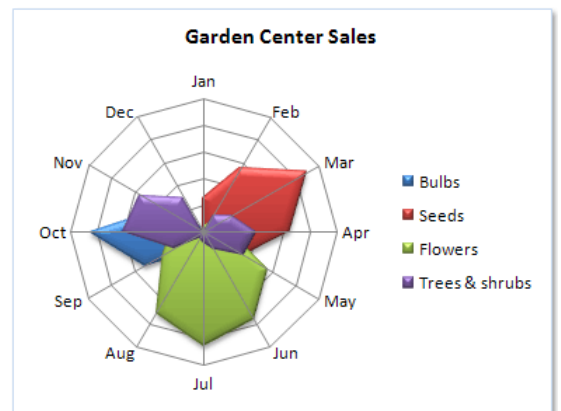


Radar charts

Data that is arranged in columns or rows on a worksheet can be plotted in a radar chart. Radar charts compare the aggregate values of a number of data series.

Radar charts have the following chart subtypes:

- **Radar and radar with markers** With or without markers for individual data points, radar charts display changes in values relative to a center point.
- **Filled radar** In a filled radar chart, the area covered by a data series is filled with a color.



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