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| **Matplotlib Functions** | **Feature** |
| plt.figure(figsize=(w, h)) | Change the size of the figure in pixels. Added on the first line of the script. |
| plt.plot(x, y, label='line') | Add a label that will be added to the legend. |
| plt.xlim(min, max) | Set the min and max range of the x-axis. |
| plt.ylim(min, max) | Set the min and max range of the y-axis. |
| plt.xlabel('x label') | Add a label to the x-axis. |
| plt.ylabel('y label') | Add a label to the y-axis. |
| plt.title("Title") | Add a title. |
| plt.legend() | Add a legend. |
| plt.grid() | Add a grid to the chart. |
| plt.savefig("add a path and figure extension") | Save the figure with the given extension. Added at the end of the script. |

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| **Matplotlib Object-Oriented Functions** | **Feature** |
| fig, ax = plt.subplots(figsize=(w, h)) | Change the size of the figure in pixels. Add this in the subplots() function. |
| ax.plot(x, y, label='line') | Add a label that will be added to the legend. |
| ax.set\_ylim(min, max) | Sets the min and max range of the y-axis. |
| ax.set\_xlim(min, max) | Sets the min and max range of the x-axis. |
| ax.set\_xlabel('x label') | Add a label to the x-axis. |
| ax.set\_ylabel('y label') | Add a label to the y-axis. |
| ax.set\_title("Title") | Add a title. |
| ax.legend() | Add a legend. |
| ax.grid() | Add a grid to the chart. |
| \*\* plt.savefig("add a path and figure extension") | Saves the figure with the given extension. Added at the end of your script. |

errorbar(y,err) creates a line plot of the data in y and draws a vertical error bar at each data point. The values in err determine the lengths of each error bar above and below the data points, so the total error bar lengths are double the err values.

Adding error bars can show either the standard deviation, standard error, confidence intervals, or minimum and maximum values of a dataset. When added to a chart, they can visually show the variability of the plotted data. By looking at the error bars, one can infer the significance of the data.

The standard deviation is a measure of the amount of variation, or spread, of a set of values from the mean.

import numpy as np

np.arange(0, 51, step=5.0)

The output of the arange() function would be in increments of 5, from zero to 50. If we didn't include step=, we would get all the numbers from zero to 50.

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| **What Do You Want to Do?** | **Use These Charts** |
| Compare values of datasets | Line, bar, scatter, and pie |
| Show how individual parts make up a whole | Pie and stacked bar |
| Show distribution of the data and outliers | Line, bar, scatter, and box-and-whisker |
| Show trends over time | Line or bar |
| Establish relationships between variables | Line, scatter, and bubble |