

Data Visualization with Matplotlib



QL 1.1

By the end of today, you should be able to...

1. Creating a line graph from data
2. Changing the appearance of the line
3. Zooming in on different parts of the axis
4. Putting labels on titles and axes
5. Creating a more complex figure layout
6. Adding legends to graphs
7. Changing tick labels and positions
8. Saving what you've made



```
from matplotlib import pyplot as plt  
  
x_values = [0, 1, 2, 3, 4]  
y_values = [0, 1, 4, 9, 16]  
plt.plot(x_values, y_values)  
plt.show()
```

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from matplotlib import pyplot as plt
```

```
x_values = [0, 1, 2, 3, 4]  
y_values = [0, 1, 4, 9, 16]  
plt.plot(x_values, y_values)  
plt.show()
```

Please [click here for Basic Line Plot activity.](#)

Basic Line Plot

5 mins

Basic Line Plot 2



```
# Days of the week:
days = [0, 1, 2, 3, 4, 5, 6]
# Your Money:
money_spent = [10, 12, 12, 10, 14, 22, 24]
# Your Friend's Money:
money_spent_2 = [11, 14, 15, 15, 22, 21, 12]
# Plot your money:
plt.plot(days, money_spent)
# Plot your friend's money:
plt.plot(days, money_spent_2)
# Display the result:
plt.show()
```

Basic Line Plot 2

5 mins

Please [click here for Basic Line Plot activity.](#)

```
# Days of the week:
days = [0, 1, 2, 3, 4, 5, 6]
# Your Money:
money_spent = [10, 12, 12, 10, 14, 22, 24]
# Your Friend's Money:
money_spent_2 = [11, 14, 15, 15, 22, 21, 12]
plt.plot(days, money_spent, color='green')
plt.plot(days, money_spent_2, color='#AAAAAA')
plt.clf()
plt.plot(days, money_spent, linestyle='--', color='red')
```

Let's hop on to

https://github.com/Make-School-Courses/QL-1.1-Quantitative-Reasoning/blob/master/Notebooks/visualizations/visualizations_in_data.ipynb

1. <https://heartbeat.fritz.ai/introduction-to-matplotlib-data-visualization-in-python-d9143287ae39>
2. Codecademy
3. Stackoverflow
4. <https://matplotlib.org/tutorials/introductory/pyplot.html>