Quarto Document

Igor Dimitrov

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- Red
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3 Textures

- Smooth
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Einsteins's theory of of special relativity that expresses the equivalence of mass and energy:

$E = mc^2$

4 Overview

See Figure 1 in Section 5 for a demo of a simple plot

5 Plot

```
import matplotlib.pyplot as plt
plt.plot([1, 23, 2, 4])
plt.show()
```

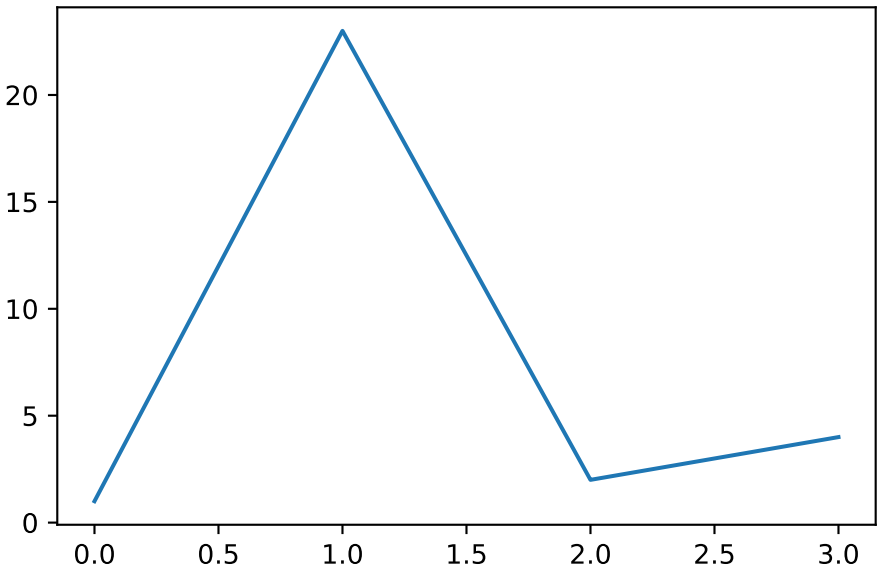


Figure 1: Simple Plot

6 Equation

$$s = \sqrt{\frac{1}{N-1}\sum_{i=1}^{N}(x_i - \overline{x}^2)} \tag{1}$$

> **Note**
>
> Note that ther are five types of callouts, including: `note`, `tip`, `warning`, `caution`, and `important`.

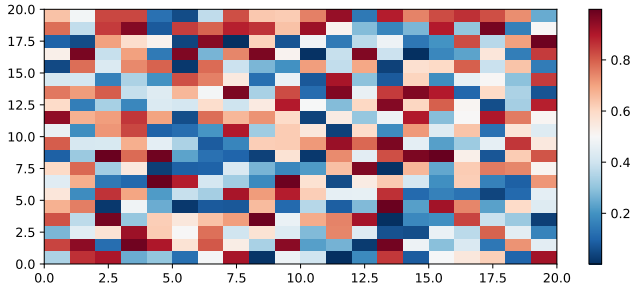
7 Placing Colorbars

Colorbars indicate the quantitative extent of image data. Placing in a figure is non-trivial because room needs to be made for them. The simplest case is just attaching a colorbar to each axes:[1].

[1] See the Matplotlib Gallery to explore colorbars further

```
import matplotlib.pyplot as plt
import numpy as np

fig, axs = plt.subplots(2, 2)
fig.set_size_inches(20, 8)
cmaps = ['RdBu_r', 'viridis']
for col in range(2):
    for row in range(2):
        ax = axs[row, col]
        pcm = ax.pcolormesh(
          np.random.random((20, 20)) * (col + 1),
          cmap=cmaps[col]
        )
        fig.colorbar(pcm, ax=ax)
plt.show()
```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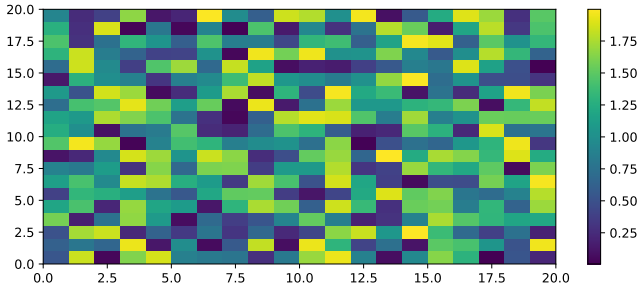
0.2 0.4 0.6 0.8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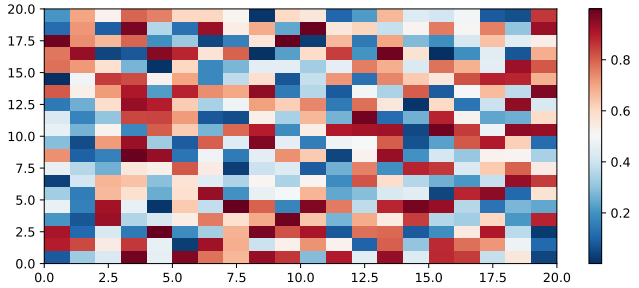
0.25 0.50 0.75 1.00 1.25 1.50 1.75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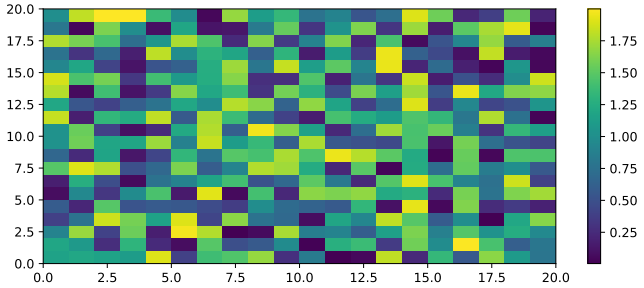
0.2 0.4 0.6 0.8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0.25 0.50 0.75 1.00 1.25 1.50 1.75