

What are the default colors in Matplotlib and where can I find a complete guide for reference?

Authored by
stats writer

June 27, 2024

RECOMMENDED CITATION

stats writer (2024). *What are the default colors in Matplotlib and where can I find a complete guide for reference?*. PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=155489>

Matplotlib is a widely used data visualization library in Python, known for its flexibility and customization options. By default, Matplotlib uses a set of predefined colors for its plots, which are defined in the 'tab10' color scheme. This includes 10 distinct colors that are used in a cyclic manner. In addition, there are also other built-in color schemes available in Matplotlib, such as 'tab20', 'tab20b', and 'tab20c'. A complete guide for the default colors in Matplotlib and their corresponding color codes can be found in the official Matplotlib documentation, which provides a comprehensive reference for users to create aesthetically pleasing and informative visualizations.

A Complete Guide to the Default Colors in Matplotlib

In Python, Matplotlib has a list of default colors that it uses for the elements in a plot depending on the number of total elements.

For example, we can use the following code to plot lines that show the first 10 default colors in Matplotlib:

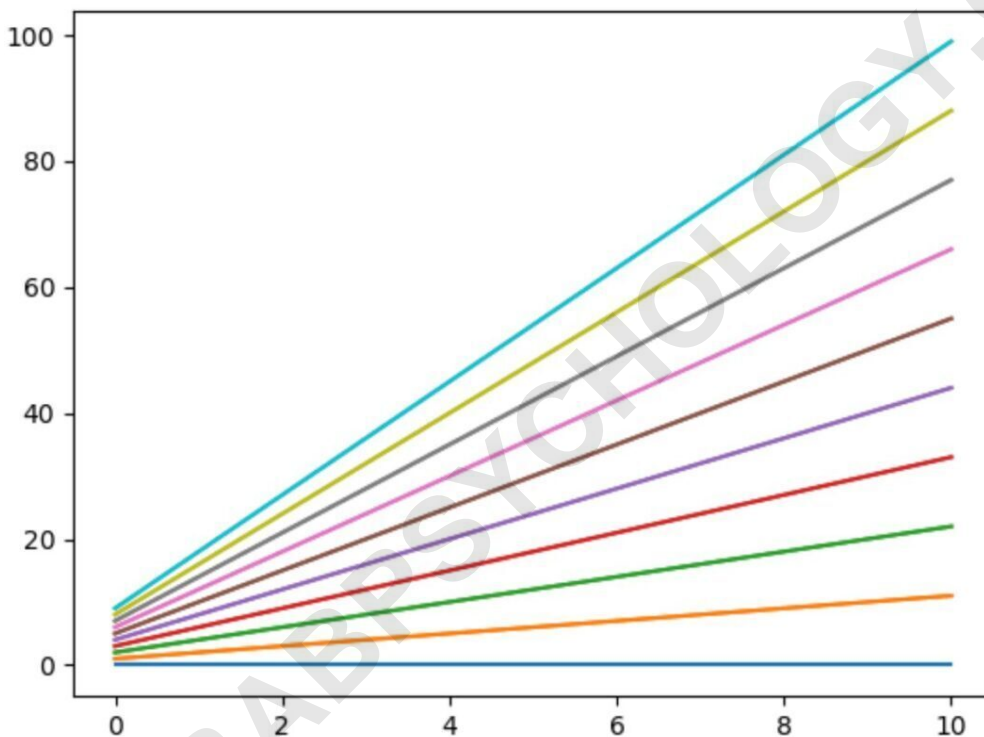
```
import numpy as np
import matplotlib.pyplot as plt
```

```
#define plot
fig = plt.figure()
ax = fig.add_subplot(111)
```

```
#define range
j = np.arange(11)
```

```
#add lines to plot
```

```
for i in range(10):  
    line, = ax.plot(j,i*(j+1))  
    ax.plot(j,i*(j+1), color = line.get_color())  
  
#display plot  
plt.show()
```



Matplotlib chooses the first 10 default colors for the lines in the plot.

We can use the following code to view the actual hex color codes of each of the ten colors:

```
import matplotlib.pyplot as plt  
  
#display hex color codes  
print(plt.rcParams.by_key())
```

The output displays the hex color code for each of the ten default colors.

For example, the first hex color code is #1f77b4. This corresponds to the first line in the plot that is blue.

The second hex color code is #ff7f0e. This corresponds to the second line in the plot that is orange.

The third hex color code is #2ca02c. This corresponds to the third line in the plot that is green.

And so on.

This means if you create a plot in Matplotlib with one line, then the color of the line will be #1f77b4 unless you specify otherwise.

Or if you create a plot in Matplotlib with two lines, the color of the first line will be #1f77b4 and the color of the

second line will be #ff7f0e unless you specify otherwise.

Refer to the for a complete explanation of the default colors.

The following tutorials explain how to perform other common tasks in Matplotlib:

ARABPSYCHOLOGY.COM