# How can I adjust the spacing between subplots in Matplotlib?

Authored by

**stats writer**

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To adjust the spacing between subplots in Matplotlib, use the `subplots_adjust()` function. This function allows you to specify the spacing between subplots in terms of the width and height of the entire figure. By adjusting the spacing, you can create a more visually appealing layout for your subplots. This can be particularly useful when creating complex plots with multiple subplots that need to be evenly spaced. Additionally, the `subplots_adjust()` function also allows you to adjust the margins around the subplots, providing further control over the spacing and layout of your plots. Overall, using the `subplots_adjust()` function can greatly enhance the overall look and readability of your plots in Matplotlib.

## Adjust Spacing Between Matplotlib Subplots

**Often you may use subplots to display multiple plots alongside each other in Matplotlib. Unfortunately, these subplots tend to overlap each other by default.**

**The easiest way to resolve this issue is by using the Matplotlib tight_layout() function. This tutorial explains how to use this function in practice.**

### Create Subplots

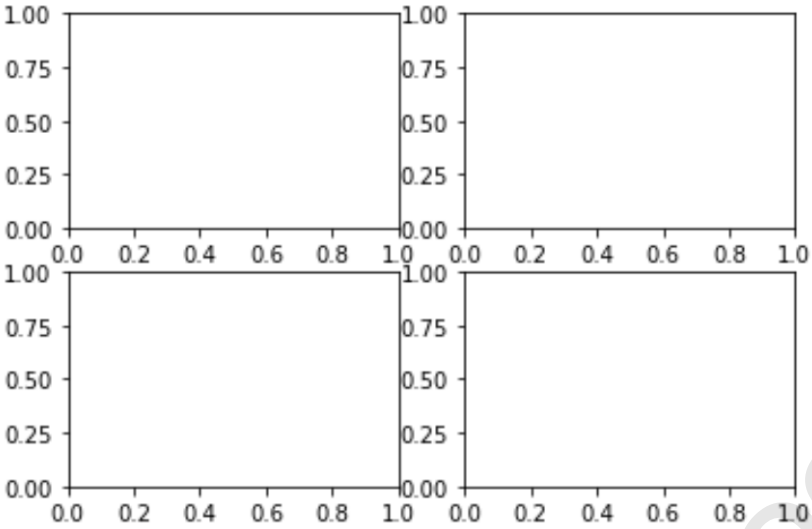
**Consider the following arrangement of 4 subplots in 2 columns and 2 rows:**

```
import matplotlib.pyplot as plt

#define subplots
fig, ax = plt.subplots(2, 2)

#display subplots
```

**plt.show()**




**Notice how the subplots overlap each other a bit.**

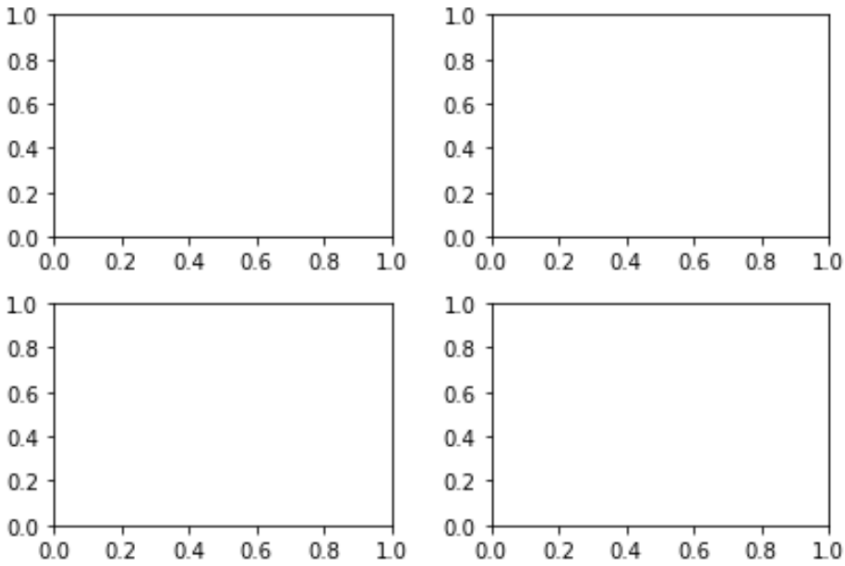
### Adjust Spacing of Subplots Using tight_layout()

**The easiest way to resolve this overlapping issue is by using the Matplotlib tight_layout() function:**

```
import matplotlib.pyplot as plt

#define subplots
fig, ax = plt.subplots(2, 2)
fig.tight_layout()

#display subplots
plt.show()
```




### Adjust Spacing of Subplot Titles

**In some cases you may also have titles for each of your subplots. Unfortunately even the tight_layout() function tends to cause the subplot titles to overlap:**

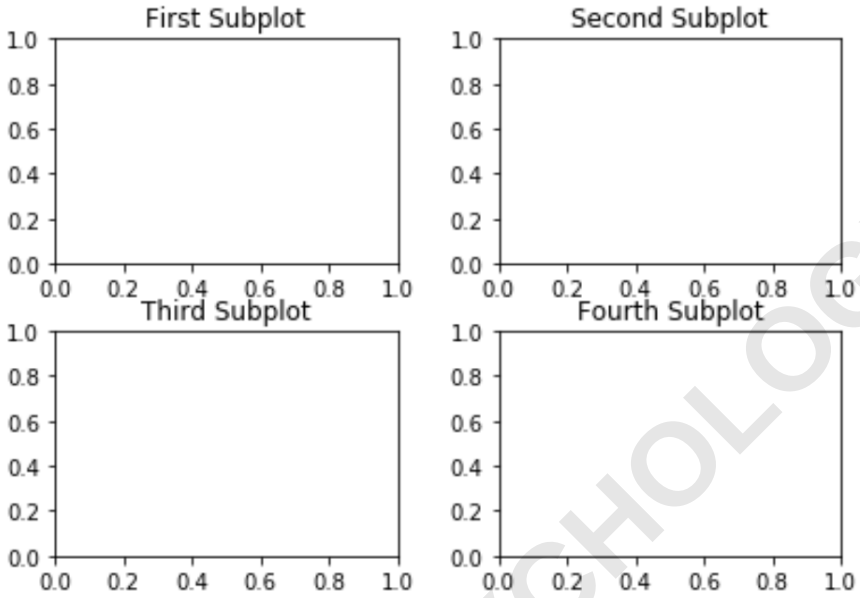
```
import matplotlib.pyplot as plt

#define subplots
fig, ax = plt.subplots(2, 2)
fig.tight_layout()

#define subplot titles
ax.set_title('First Subplot')
ax.set_title('Second Subplot')
ax.set_title('Third Subplot')
```

```
ax.set_title('Fourth Subplot')

#display subplots
plt.show()
```






**The way to resolve this issue is by increasing the height padding between subplots using the h_pad argument:**

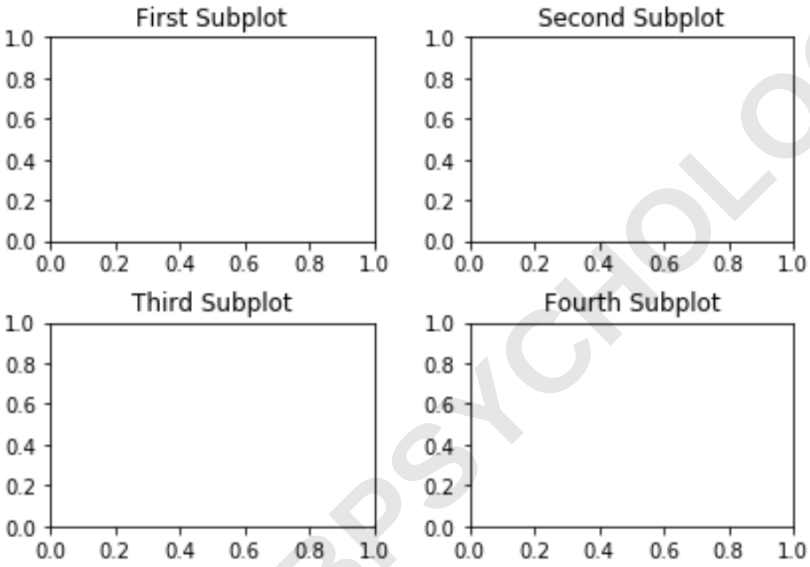
```
import matplotlib.pyplot as plt

#define subplots
fig, ax = plt.subplots(2, 2)
fig.tight_layout(h_pad=2)

#define subplot titles
```

```
ax.set_title('First Subplot')
ax.set_title('Second Subplot')
ax.set_title('Third Subplot')
ax.set_title('Fourth Subplot')

#display subplots
plt.show()
```






### Adjust Spacing of Overall Title

**If you have an overall title, you can use the subplots_adjust() function to ensure that it doesn't overlap with the subplot titles:**

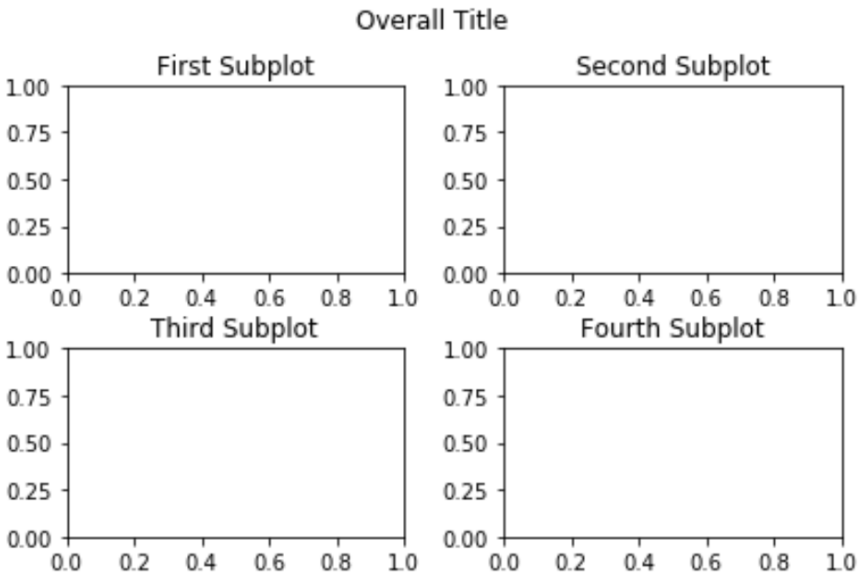
```
import matplotlib.pyplot as plt
```

```
#define subplots
fig, ax = plt.subplots(2, 2)
fig.tight_layout(h_pad=2)

#define subplot titles
ax.set_title('First Subplot')
ax.set_title('Second Subplot')
ax.set_title('Third Subplot')
ax.set_title('Fourth Subplot')

#add overall title and adjust it so that it doesn't overlap
with subplot titles
fig.suptitle('Overall Title')
plt.subplots_adjust(top=0.85)

#display subplots
plt.show()
```




***You can find more Matplotlib tutorials here.***