

Educate!

Annotation is enabled on the page !

Subplots And Small Multiples

September 22, 2016 by [Admin](#)

(<http://courselibrary.shaveensingh.com/forum/profile/admin/>)

Subplots And Small Multiples

```
1 %matplotlib inline
2 import matplotlib.pyplot as plt
3 import numpy as np
```

Subplots

Purpose: Allows you to place multiple charts in a figure.

matplotlib function: subplot(nrows, ncols, plot_number)

- nrows: The number of rows in the figure.
- ncols: The number of columns in the figure.
- plot_number: The placement of the chart (starts at 1).

Example:

```
1 plt.figure()
2
3 for i in range(1, 7):
4     plt.subplot(3, 2, i)
5     plt.title(i)
6     plt.xticks([])
7     plt.yticks([])
8
9 plt.tight_layout()
10 ;
```

Output:



Scroll Depth: 46%

<< View Python Editor

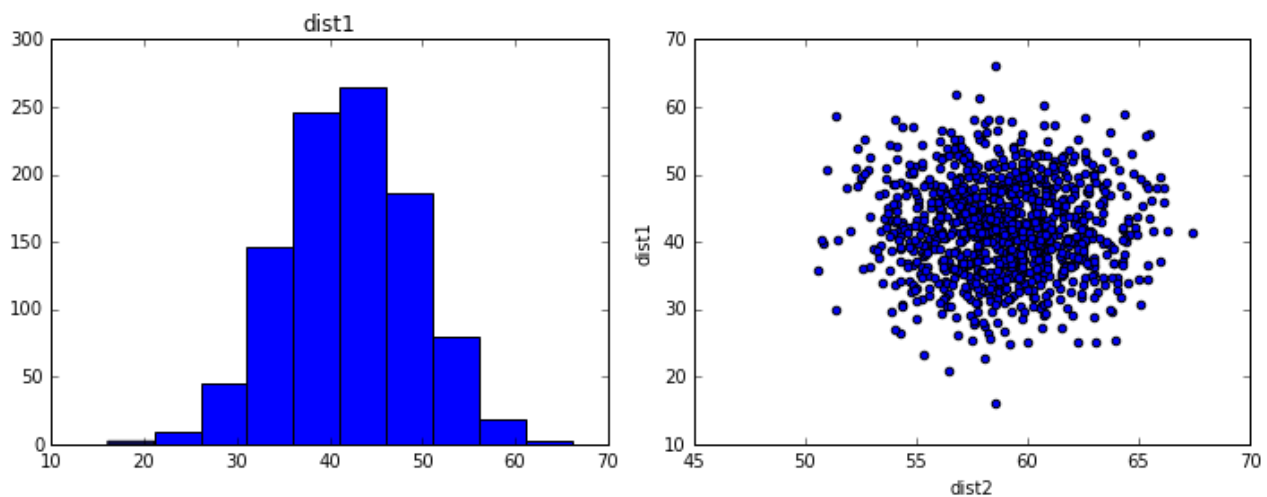


```

1 dist1 = np.random.normal(42, 7, 1000)
2 dist2 = np.random.normal(59, 3, 1000)
3
4 plt.figure(figsize=(10, 4))
5
6 plt.subplot(1, 2, 1)
7 plt.hist(dist1)
8 plt.title('dist1')
9
10 plt.subplot(1, 2, 2)
11 plt.scatter(dist2, dist1)
12 plt.xlabel('dist2')
13 plt.ylabel('dist1')
14
15 plt.tight_layout()
16 ;

```

Output:



Small multiples

Useful for comparing many categories

Example:

Scroll Depth: 46%

<< View Python Editor

```
1 years = np.arange(2010, 2016)
```

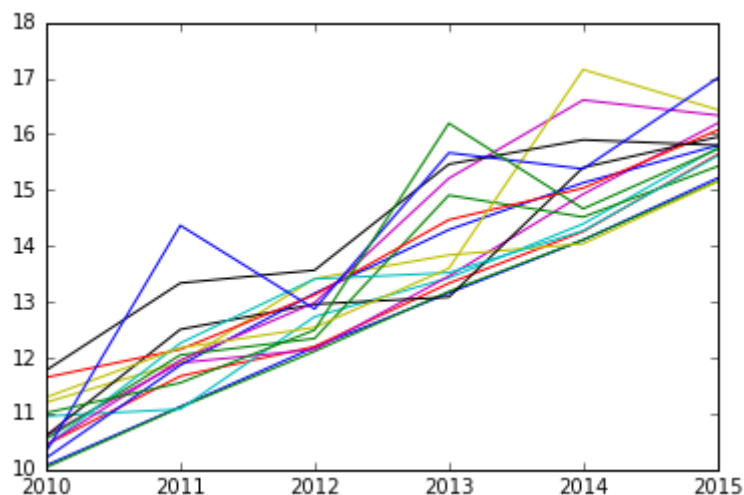
```

1 years = np.arange(2010, 2016)
2
3 plt.figure()
4
5 for category_num in range(1, 17):
6     y_vals = np.arange(10, 16) + (np.random.random(6) * category_num / 4.)
7     plt.plot(years, y_vals)
8
9 plt.ylim(10, 18)
10 plt.xticks(years, [str(year) for year in years])
11 ;

```

Annotation is enabled on the page !

Output:



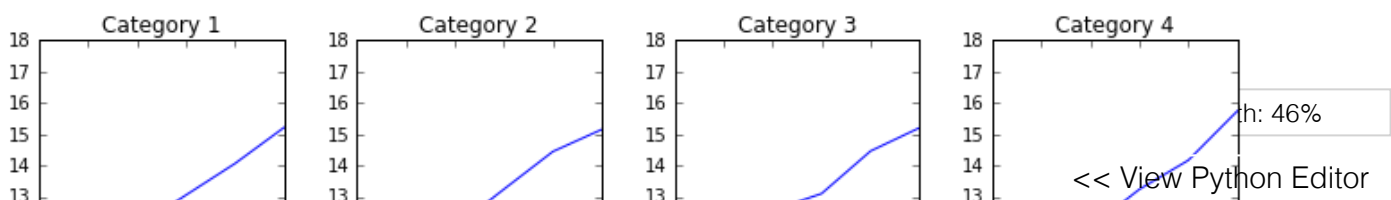
Same chart, same axes, many times

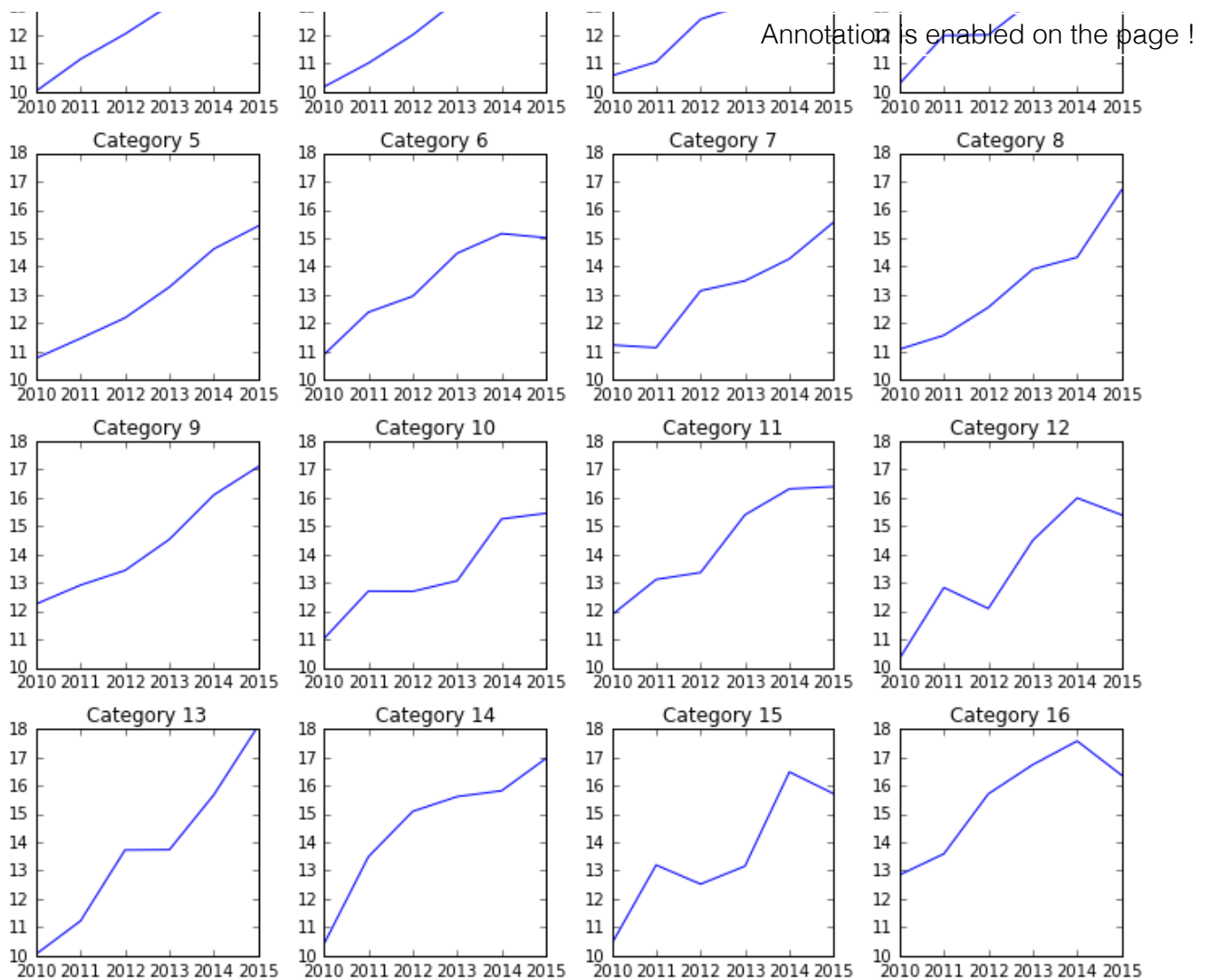
```

1 years = np.arange(2010, 2016)
2
3 plt.figure(figsize=(10, 10))
4
5 for category_num in range(1, 17):
6     plt.subplot(4, 4, category_num)
7     y_vals = np.arange(10, 16) + (np.random.random(6) * category_num / 4.)
8     plt.plot(years, y_vals)
9     plt.ylim(10, 18)
10    plt.xticks(years, [str(year) for year in years])
11    plt.title('Category {}'.format(category_num))
12
13 plt.tight_layout()
14 ;

```

Output:





Click to see real world example of small multiples: ↩

You have now completed this section.

« [Previous Unit](http://courselibrary.shaveensingh.com/module-3/plotting-distributions-histograms-and-box-plots/) (<http://courselibrary.shaveensingh.com/module-3/plotting-distributions-histograms-and-box-plots/>) [Next Unit »](http://courselibrary.shaveensingh.com/module-3/matplotlib-basic-exercises-practice-solution/) (<http://courselibrary.shaveensingh.com/module-3/matplotlib-basic-exercises-practice-solution/>)

Scroll Depth: 46%

<< View Python Editor

Annotation is enabled on the page !

Copyright © 2018 · [Shaveen Singh](http://www.shaveensingh.com) (<http://www.shaveensingh.com>) on [Genesis Framework](http://www.studiopress.com/) (<http://www.studiopress.com/>) · [WordPress](http://wordpress.org/) (<http://wordpress.org/>) · [Log out](http://courselibrary.shaveensingh.com/wp-login.php?action=logout&_wpnonce=7773fc020a) (http://courselibrary.shaveensingh.com/wp-login.php?action=logout&_wpnonce=7773fc020a)

(<http://www.themekiller.me/>)

Scroll Depth: 46%

<< View Python Editor