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make multiple plots per page and over several pages inside a 'for' loop for matplotlib in python

I need to generate over 100 plots (line diagrams) from a numerical model. The code so far is generating plots specified inside the loop, but it keeps adding multiple lines to the same 4 plots. I want it to finish making 4 plots, then open a new page and draw those 4 plots again and again, so I should have say 25 pages with 100 plots in total.

The code so far - I am starting small and want to generate 12 plots over 3 pages and save it as a file 'plot.pdf' :

```python
from t2listing import *
import matplotlib.pylot as plt
from matplotlib.backends.backend_pdf import PdfPages

lst = t2listing('WAI1515PR_AW_407_ayfixold2.listing')

pdf_pages = PdfPages('plot.pdf')

feed = lst.generation.row_name

zone = feed[0:12]

sub = [221, 222, 223, 224]

for i in xrange(3):
    fig = plt.figure()
    for zone,sub in in zip(feed[0:12],(10/4+1)*sub):
        (time, massflow) = lst.history([('g',zone,'Generation rate')])
        ax1 = fig.add_subplot(sub)
        ax1.plot(time, massflow, 'k-')
        plt.ylabel('massflow kg/s')
        plt.xlabel('time in seconds')
        plt.title('GENER data')
        plt.tight_layout()
        plt.savefig('plot.pdf')
```

```
    ptt.savefig( plot.pdf )
    pdf_pages.savefig(fig)
    pdf_pages.close()
```

The result so far is that I get 4 plots, each with 3 line diagrams on it, any possible way to get 12 separate plots?

python   loops   matplotlib   plot   pdf-generation

edited Nov 28 '12 at 9:55   asked Nov 28 '12 at 1:39

Zhenya   Aneesh Shinde
4,805   10   24   **6**   1

add comment

1 Answer

you should generate new figure in each iteration. for example `fig1 = plt.figure()` and `ax1 = fig1.add_subplot(sub)` in 1st iteration. Then, `fig2 = plt.figure()` and `ax2 = fig2.add_subplot(sub)` in 2nd iteration and so on. In this way it will plot four subplot in each iteration. You can save each figure as `fig1.savefig(...)`, `fig2.savefig(...)` ...

answered Nov 28 '12 at 10:39

Elect28
18   3

Is there no way to automate the generation of new figures? I need to plot around 25 figures, surely there must be some way to do it? –   Aneesh Shinde Nov 28 '12 at 21:02

You can do that in a loop. for example, `for i in range(3):` then `fig = plt.figure(i)` and `ax`

`= fig.add_subplot(sub)` and at the end before exiting the loop you can save fig as
`fig.savefig('your_file_path'+str(i)+'_'+fig.png')` . There might be other easier way to do this. –   Elect28 Nov 29 '12 at 10:11

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