Homework

Previously module plotnotebook.py (https://confluence.aps.anl.gov/download/attachments/2523138/plotnotebook.py) was provided to simplify use of matplotlib plotting with multiple tabbed windows. When I originally wrote it, all the code was in classes, but later I rewrote it to take some code out of modules .

Read the code.

- *What do the two classes do? What is the advantage of having that code in classes?*
- *What code is not contained in a class? When does that code get run? What are the advantages of not having that code in a object?*

Part 1

What do the two classes do?

- PlotNotebook creates a frame and panel and defines methods to:
  - add tabbed plots to the panel
  - return a name of a tabbed panel or create it if does not exist
  - Raise a tab to the foreground
- Plot is used to create a panel inside a tabbed notebook page

```
class PlotNotebook(wx.Panel):
    'defines a panel in a independent frame'
   def AddPlotTab(self,name="plot"):
        'Adds a plot tab to the panel'
   def ReusePlotTab(self,name="plot"):
        'Reuses a plot tab on the panel,'
   def RaisePlotTab(self,name="plot"):
        'Raises a plot tab on the panel'
```

```
class Plot(wx.Panel):
    ''' Defines a panel containing a plot
etc to be placed in a notebook widget
    Note that this is expected to be called
only from PlotNotebook.AddPlotTab
    '''
```

What is the advantage of having that code in classes?

- By making these classes, each frame is an object and one can have as many as desired; likewise the same for tabbed pages

Part 2

What code is not contained in a class?

- The 3 sections of code to right

```
# initialization code: create a basic Wx appli
app = wx.PySimpleApp()
framelist = [] # list of frames (windows) crea
```

When does that code get run?

- The initialization code is run once when the module is first imported
- MakePlotWindow is called to create new frames
- ShowPlots is called to display all frames and to start up the event loop

```
def MakePlotWindow(DisableDelete=False, size=(
    ''' Create a plot window...
```

```
def ShowPlots():
    '''Call ShowPlots after all plots are defi
    and to enter the event loop so that widget
    '''
    for frame in framelist:
        frame.Show()
    app.MainLoop()
```

What are the advantages of not having that code in a object?

- App initialization is done automatically and can only be done once
- the two functions can be accessed without having to pass names of created objects

Next week: improving this module

John Hammonds will show how to improve this module by using inheritance more wisely