```
Python 3.6.0 |Anaconda custom (64-bit)| (default, Dec 23 2016, 11:57:41) [MSC v.1900 64 bit (AMD64)]
Type "copyright", "credits" or "license" for more information.

IPython 5.1.0 -- An enhanced Interactive Python.
?         -> Introduction and overview of IPython's features.
%quickref -> Quick reference.
help      -> Python's own help system.
object?   -> Details about 'object', use 'object??' for extra details.

In [1]: runfile('C:/Users/kruegkj/Documents/GitHub/QuantTradingSys/Code/utilities/stationarity_tests.py',
wdir='C:/Users/kruegkj/Documents/GitHub/QuantTradingSys/Code/utilities')
2014-03-30

Successfully retrieved Primary


Retrieved rows:  5063

Returning rows:  1045
```
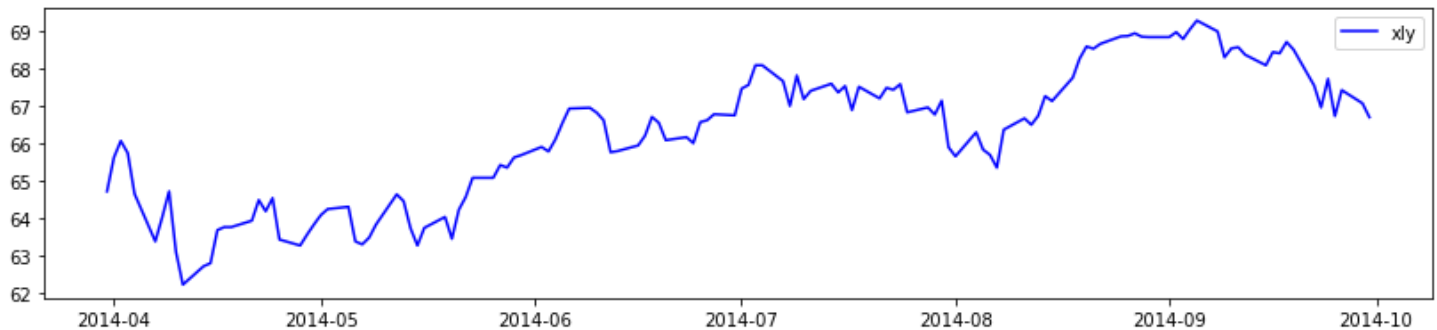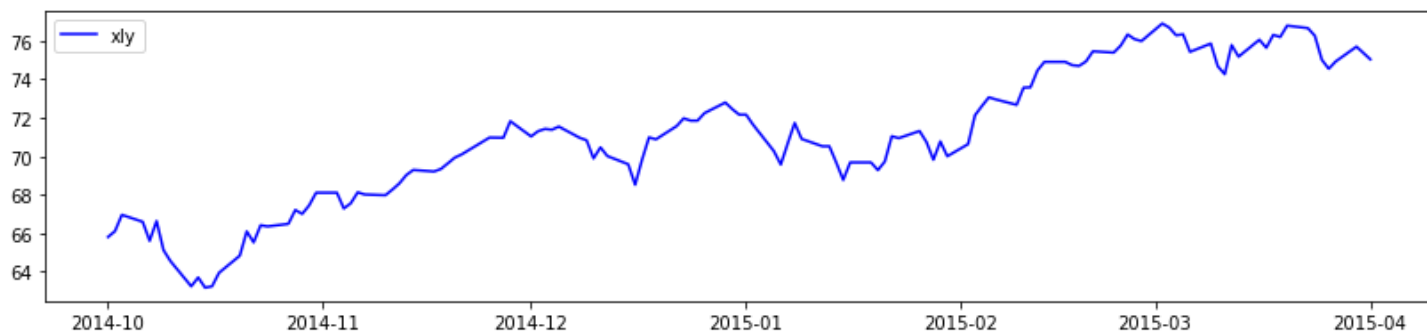


```
====== ADF Test for Stationarity ======
Issue:  xly
Start Date:  2014-03-31
End Date:  2014-09-30

ADF Statistic: -1.679256
p-value: 0.441831
** The series is likely non-stationary **
Critical Values:
        1%: -3.481
        5%: -2.884
        10%: -2.579

====== Hurst Exponent Test ======
Hurst(GBM):   0.499
Hurst(MR):    0.001
Hurst(TR):    0.915
Hurst(xly):   0.361
```

```
====== ADF Test for Stationarity ======
Issue:  xly
Start Date:  2014-10-01
End Date:  2015-04-01

ADF Statistic: -1.266085
p-value: 0.644542
** The series is likely non-stationary **
Critical Values:
        1%: -3.482
        5%: -2.884
        10%: -2.579

====== Hurst Exponent Test ======
Hurst(GBM):    0.504
Hurst(MR):     -0.001
Hurst(TR):     0.912
Hurst(xly):    0.385
```
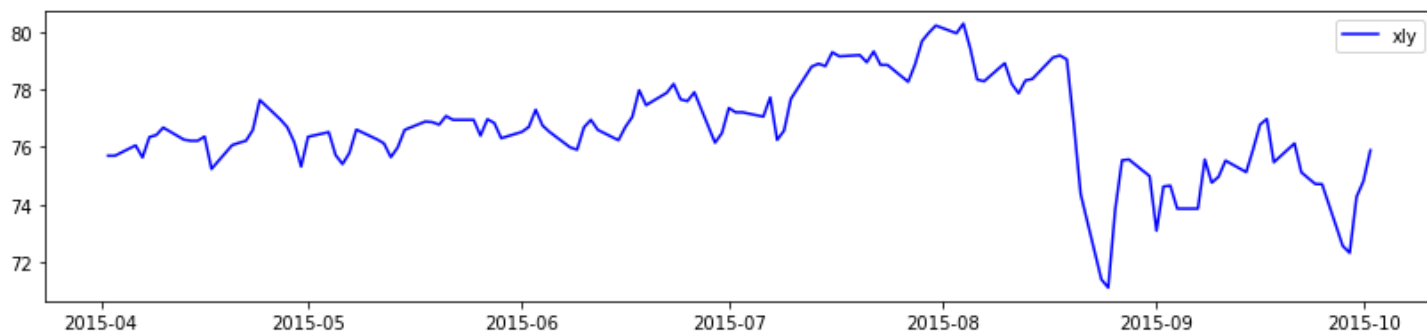


```
====== ADF Test for Stationarity ======
Issue:  xly
Start Date:  2015-04-02
End Date:  2015-10-02

ADF Statistic: -3.353186
p-value: 0.012662
** The series is likely stationary **
Critical Values:
        1%: -3.482
        5%: -2.884
        10%: -2.579

====== Hurst Exponent Test ======
Hurst(GBM):    0.500
Hurst(MR):     -0.000
Hurst(TR):     0.914
Hurst(xly):    0.274
```
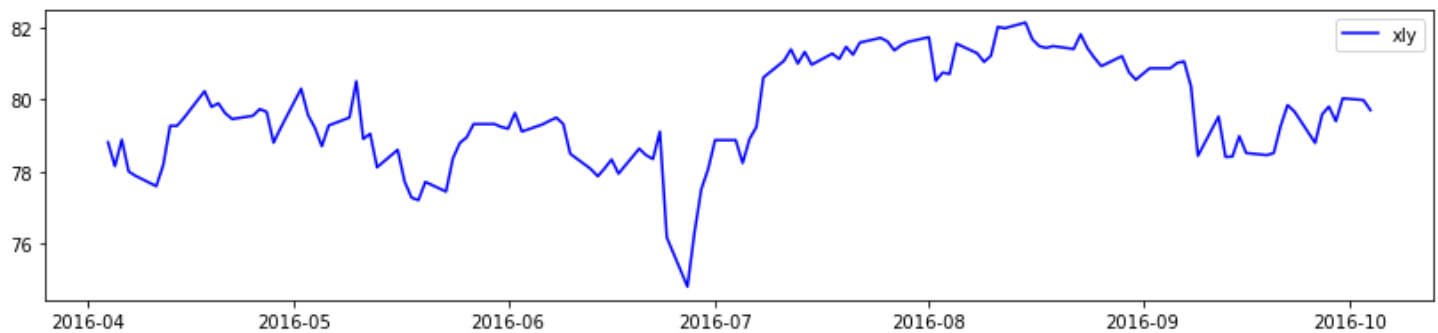
```
====== ADF Test for Stationarity ======
Issue:  xly
Start Date:  2015-10-05
End Date:  2016-04-01

ADF Statistic: -1.281053
p-value: 0.637795
** The series is likely non-stationary **
Critical Values:
        1%: -3.482
        5%: -2.884
        10%: -2.579

====== Hurst Exponent Test ======
Hurst(GBM):    0.497
Hurst(MR):     0.000
Hurst(TR):     0.915
Hurst(xly):    0.522
```
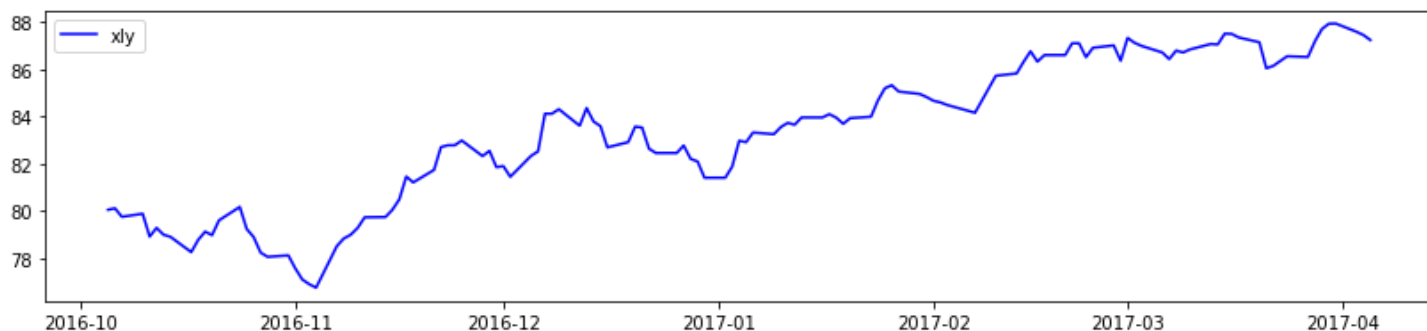


```
====== ADF Test for Stationarity ======
Issue:  xly
Start Date:  2016-04-04
End Date:  2016-10-04

ADF Statistic: -2.620081
p-value: 0.088918
** The series is likely non-stationary **
Critical Values:
        1%: -3.481
        5%: -2.884
        10%: -2.579

====== Hurst Exponent Test ======
Hurst(GBM):    0.503
Hurst(MR):    -0.000
Hurst(TR):     0.908
Hurst(xly):    0.369
```

```
====== ADF Test for Stationarity ======
Issue:  xly
Start Date:  2016-10-05
End Date:  2017-04-05

ADF Statistic: -0.759295
p-value: 0.830788
** The series is likely non-stationary **
Critical Values:
        1%: -3.482
        5%: -2.884
        10%: -2.579

====== Hurst Exponent Test ======
Hurst(GBM):   0.504
Hurst(MR):    -0.000
Hurst(TR):    0.912
Hurst(xly):   0.408
```
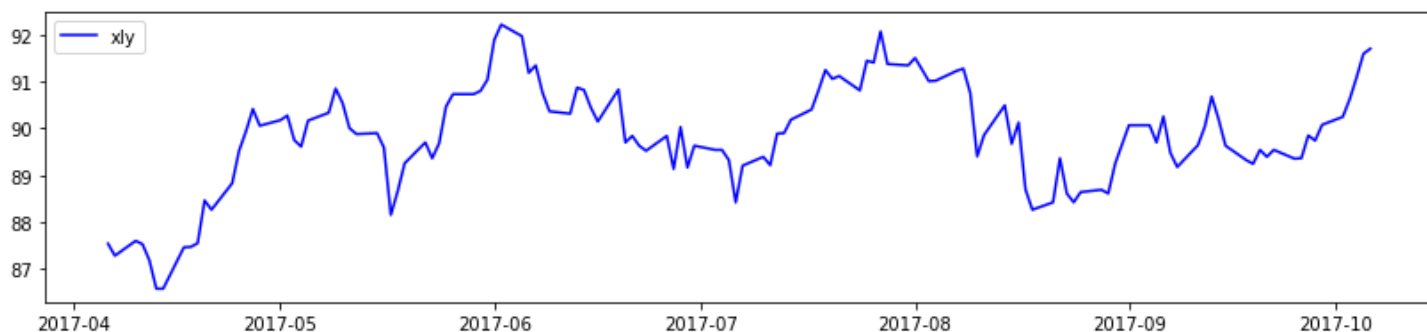


```
====== ADF Test for Stationarity ======
Issue:  xly
Start Date:  2017-04-06
End Date:  2017-10-06

ADF Statistic: -2.655675
p-value: 0.082027
** The series is likely non-stationary **
Critical Values:
        1%: -3.481
        5%: -2.884
        10%: -2.579

====== Hurst Exponent Test ======
Hurst(GBM):   0.504
Hurst(MR):    -0.000
Hurst(TR):    0.908
```
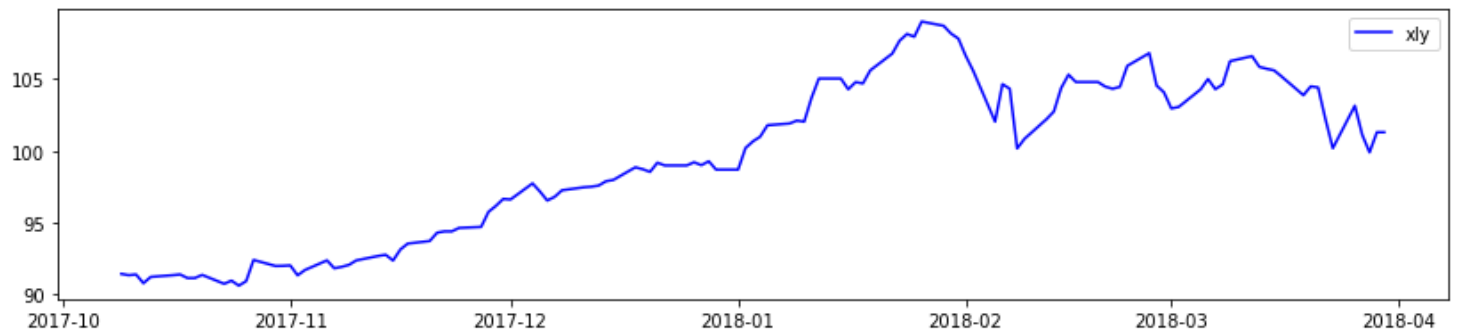
Hurst(xly):   0.436


```
====== ADF Test for Stationarity ======
Issue:  xly
Start Date:  2017-10-09
End Date:  2018-03-30

ADF Statistic: -1.485474
p-value: 0.540685
** The series is likely non-stationary **
Critical Values:
        1%: -3.484
        5%: -2.885
        10%: -2.579

====== Hurst Exponent Test ======
Hurst(GBM):    0.498
Hurst(MR):    -0.000
Hurst(TR):    0.910
Hurst(xly):    0.430
```

In [2]: