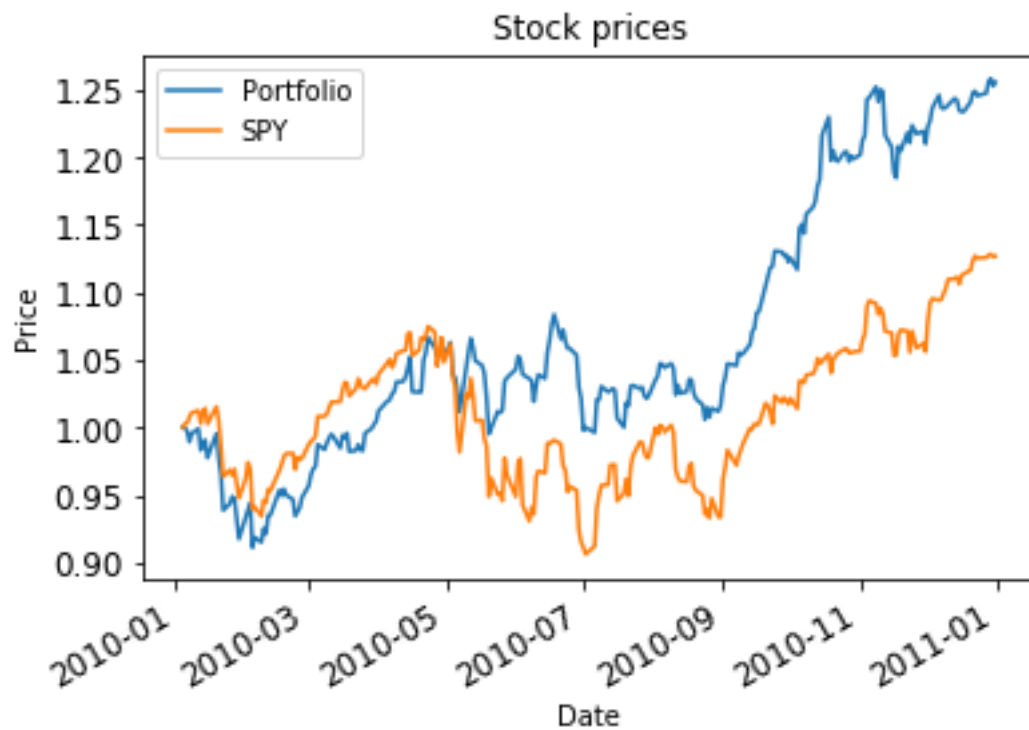


Project 1 Assess Portfolio

```
78 def test_code():
79     # This code WILL NOT be tested by the auto grader
80     # It is only here to help you set up and test your code
81
82     # Define input parameters
83     # Note that ALL of these values will be set to different values by
84     # the autograder!
85     start_date = dt.datetime(2010,1,1)
86     end_date = dt.datetime(2010,12,31)
87     symbols = ['GOOG', 'AAPL', 'GLD', 'XOM']
88     allocations = [0.2, 0.3, 0.4, 0.1]
89     start_val = 1000000
90     risk_free_rate = 0.0
91     sample_freq = 252
92
93     # Assess the portfolio
94     cr, adr, sddr, sr, ev = assess_portfolio(sd = start_date, ed = end_date, \
95         syms = symbols, \
96         allocs = allocations, \
97         sv = start_val, \
98         gen_plot = True)
99
100     # Print statistics
101     print("Start Date:", start_date)
102     print("End Date:", end_date)
103     print("Symbols:", symbols)
104     print("Allocations:", allocations)
105     print("Sharpe Ratio:", sr)
106     print("Volatility (stdev of daily returns):", sddr)
107     print("Average Daily Return:", adr)
108     print("Cumulative Return:", cr)
109
110 if __name__ == "__main__":
111     test_code()
```

Example 1



Start Date: 2010-01-01 00:00:00

End Date: 2010-12-31 00:00:00

Symbols: ['GOOG', 'AAPL', 'GLD', 'XOM']

Allocations: [0.2, 0.3, 0.4, 0.1]

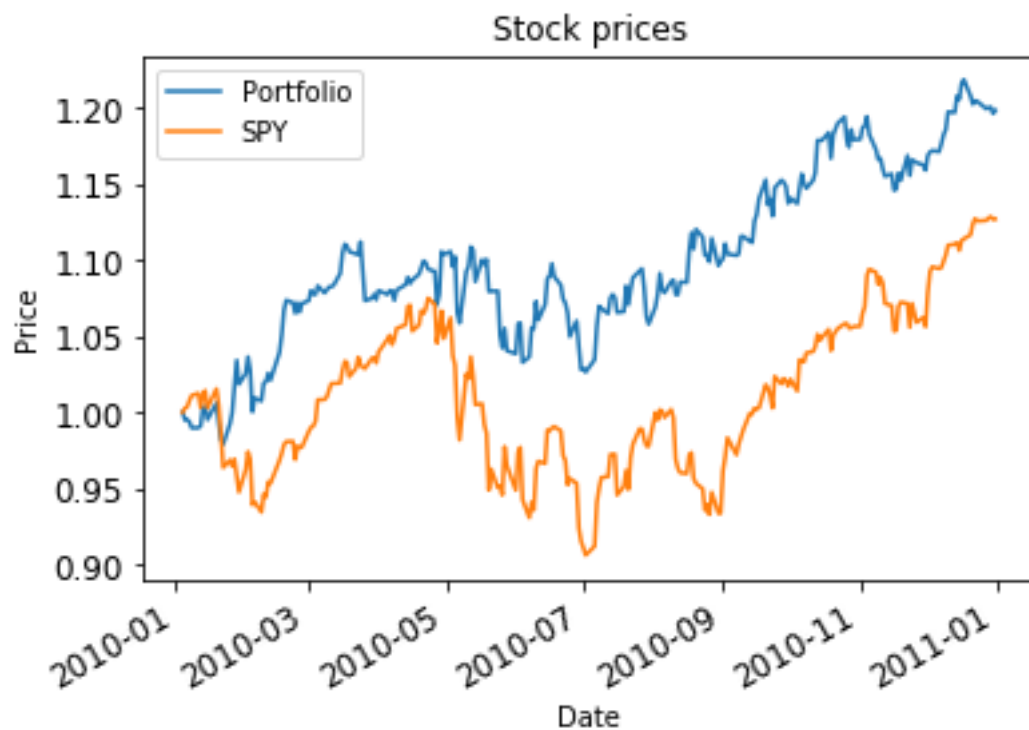
Sharpe Ratio: 1.518192436412635

Volatility (stdev of daily returns): 0.010010402800015368

Average Daily Return: 0.0009573662342381413

Cumulative Return: 0.25564678453350465

Example 2



Start Date: 2010-01-01 00:00:00

End Date: 2010-12-31 00:00:00

Symbols: ['AXP', 'HPQ', 'IBM', 'HNZ']

Allocations: [0.0, 0.0, 0.0, 1]

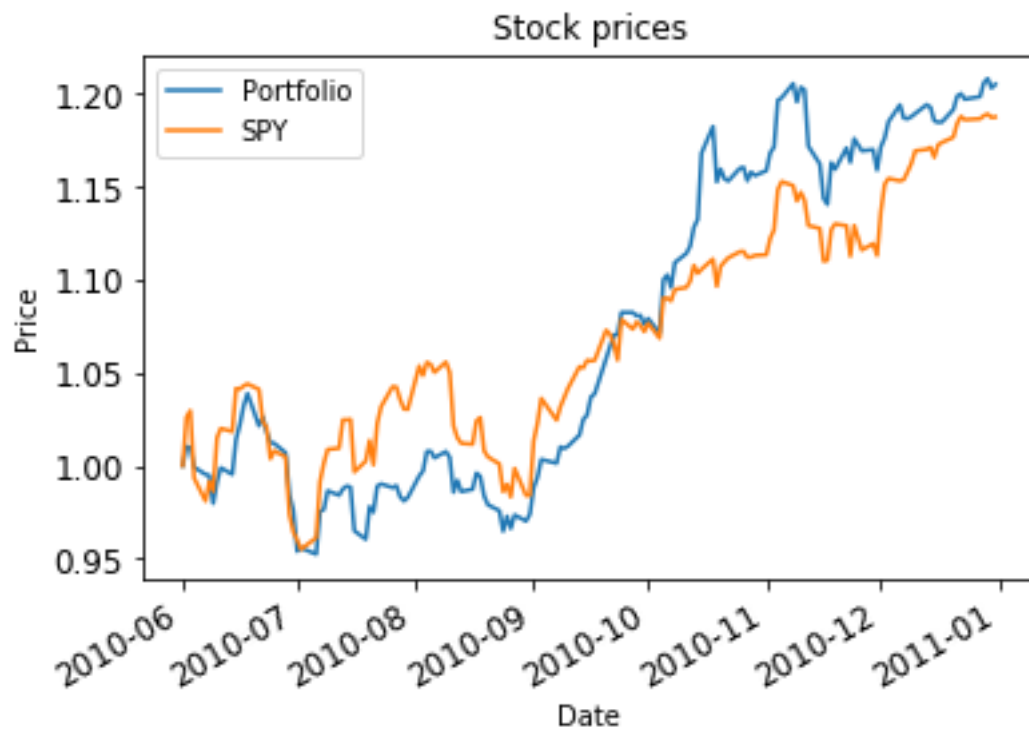
Sharpe Ratio: 1.3079839874416062

Volatility (stdev of daily returns): 0.00926153128768457

Average Daily Return: 0.0007631061526720289

Cumulative Return: 0.19810596365497823

Example 3



Start Date: 2010-06-01 00:00:00

End Date: 2010-12-31 00:00:00

Symbols: ['GOOG', 'AAPL', 'GLD', 'XOM']

Allocations: [0.2, 0.3, 0.4, 0.1]

Sharpe Ratio: 2.2125976667229317

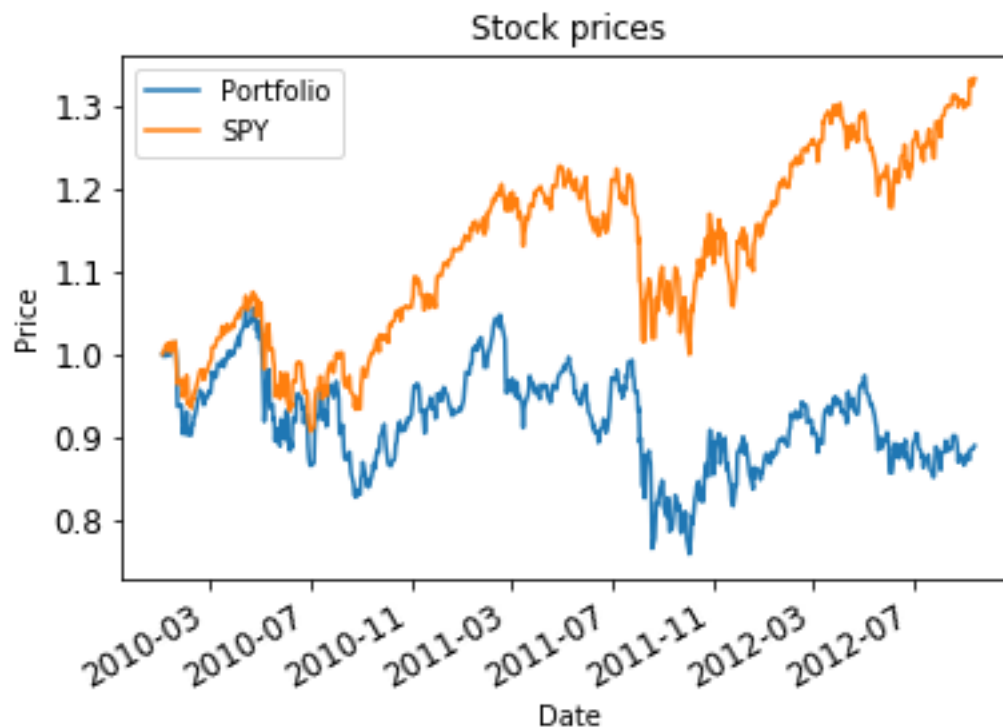
Volatility (stdev of daily returns): 0.009297346197073994

Average Daily Return: 0.0012958692436644658

Cumulative Return: 0.20511393879215278

Normalization check

```
PortfolioTestCase(  
    inputs=dict(  
        start_date='2010-01-01',  
        end_date='2013-05-31',  
        symbol_allocs=OrderedDict([('AXP', 0.3), ('HPQ', 0.5), ('IBM', 0.1), ('GOOG', 0.1)]),  
        start_val=1000000),  
    outputs=dict(  
        cum_ret=-0.110888530433,  
        avg_daily_ret=-6.50814806831e-05,  
        sharpe_ratio=-0.0704694718385),  
    description="Normalization check"
```



Start Date: 2010-01-01

End Date: 2013-05-31

Symbols: ['AXP', 'HPQ', 'IBM', 'GOOG']

Allocations: [0.3, 0.5, 0.1, 0.1]

Sharpe Ratio: -0.07046947183850975

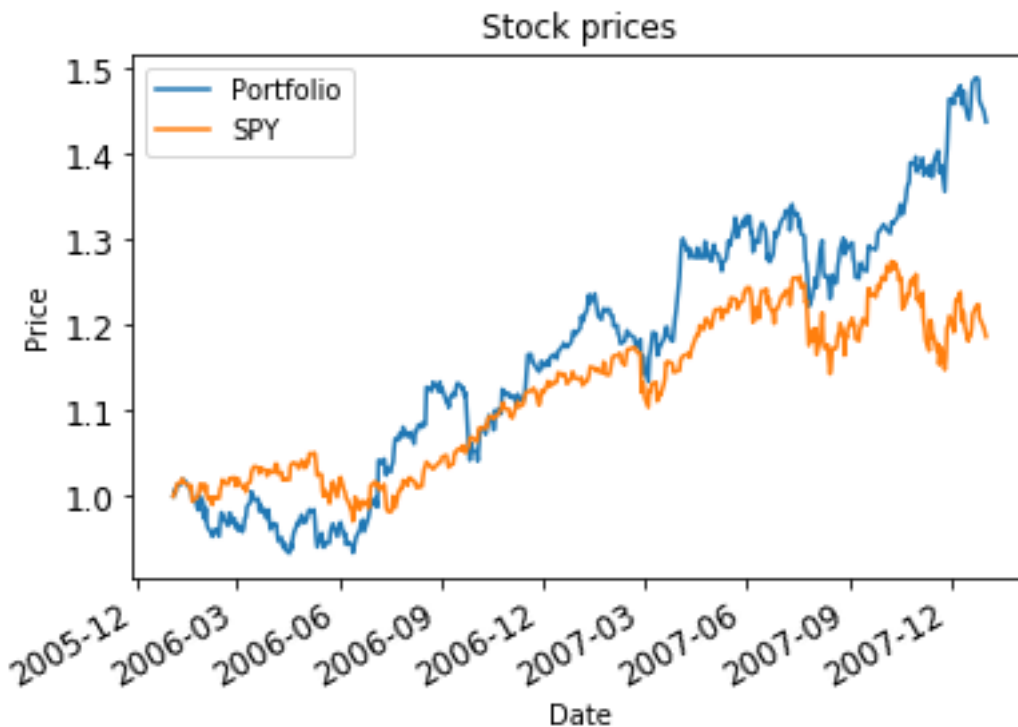
Volatility (stdev of daily returns): 0.014660766571775166

Average Daily Return: -6.508148068314128e-05

Cumulative Return: -0.1108885304326288

Two years range

```
PortfolioTestCase(  
    inputs=dict(  
        start_date='2006-01-03',  
        end_date='2008-01-02',  
        symbol_allocs=OrderedDict([('MMM', 0.0), ('MO', 0.9), ('MSFT', 0.1), ('INTC', 0.0)]),  
        start_val=1000000),  
    outputs=dict(  
        cum_ret=0.43732715979,  
        avg_daily_ret=0.00076948918955,  
        sharpe_ratio=1.26449481371),  
    description="Two year range"
```



Start Date: 2006-01-03

End Date: 2008-01-02

Symbols: ['MMM', 'MO', 'MSFT', 'INTC']

Allocations: [0.0, 0.9, 0.1, 0.0]

Sharpe Ratio: 1.2644948137070842

Volatility (stdev of daily returns): 0.009660191611860791

Average Daily Return: 0.0007694891895501888

Cumulative Return: 0.43732715978966175