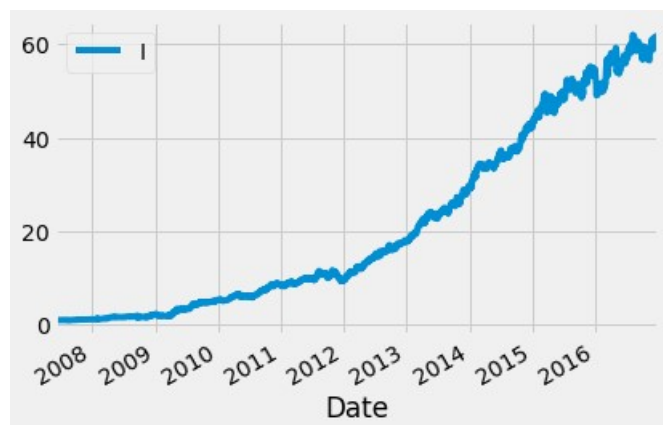


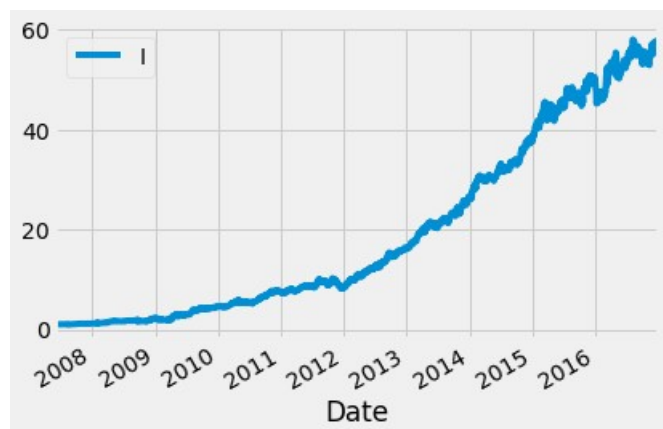
```
In [30]: runfile('E:/GitWorkSpace/v-ratio-momentum-and-ladder/portfolio.py', wdir='E:/
GitWorkSpace/v-ratio-momentum-and-ladder')
Reloaded modules: WhiteRealityCheckFor1, computation_helper, data_helper,
rotational_momentum
requested data history already exists!
```

```
===== (10, '1W-FRI-100%', 3, 1, 1, 1, -3) =====
E:\GitWorkSpace\v-ratio-momentum-and-ladder\computation_helper.py:278: RuntimeWarning:
invalid value encountered in double_scalars
  vratio = t/(lag*b);
```



```
TotaAnnReturn = 613.708261
CAGR = 50.760000
Sharpe Ratio = 1.731000
Volatility= 0.268000
number of records for the series after dropping na: 1017
average return 0.005840
[-0.00299824  0.0031028 ]
Reject Ho = The population distribution of rule returns has an expected value of zero or
less (because p_value is small enough)
p_value:
5.99999999994898e-05
```

```
===== (10, '1W-FRI-100%', 3, 1, 1, 1, -2.5) =====
E:\GitWorkSpace\v-ratio-momentum-and-ladder\computation_helper.py:278: RuntimeWarning:
invalid value encountered in double_scalars
  vratio = t/(lag*b);
```



```

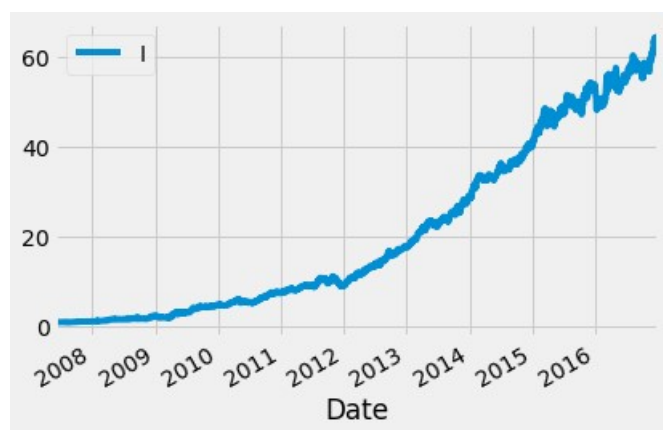
TotaAnnReturn = 574.147320
CAGR = 49.780000
Sharpe Ratio = 1.693000
Volatility= 0.271000
number of records for the series after dropping na: 1017
average return 0.005535
[-0.00300902  0.00311152]
Reject Ho = The population distribution of rule returns has an expected value of zero or
less (because p_value is small enough)
p_value:
0.00024000000000001798

```

```

===== (10, '1W-FRI-100%', 3, 1, 1, 1, -2) =====
E:\GitWorkSpace\v-ratio-momentum-and-ladder\computation_helper.py:278: RuntimeWarning:
invalid value encountered in double_scalars
  vratio = t/(lag*b);

```



```

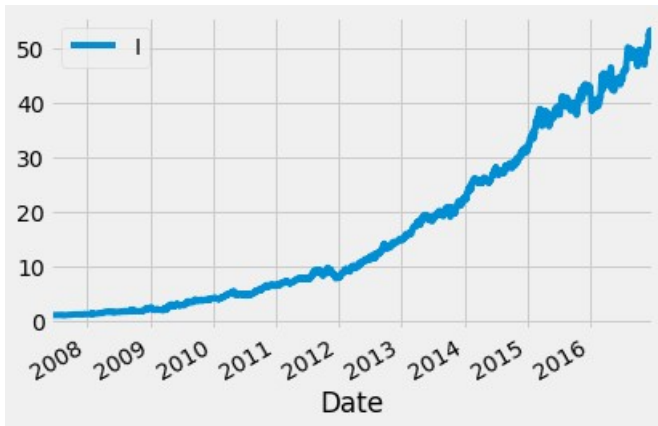
TotaAnnReturn = 641.618889
CAGR = 51.420000
Sharpe Ratio = 1.727000
Volatility= 0.272000
number of records for the series after dropping na: 1017
average return 0.005222
[-0.00299956  0.00305923]
Reject Ho = The population distribution of rule returns has an expected value of zero or
less (because p_value is small enough)
p_value:
0.00036000000000002697

```

```

===== (10, '1W-FRI-100%', 3, 1, 1, 1, -1.5) =====
E:\GitWorkSpace\v-ratio-momentum-and-ladder\computation_helper.py:278: RuntimeWarning:
invalid value encountered in double_scalars
  vratio = t/(lag*b);

```



TotaAnnReturn = 529.649500

CAGR = 48.600000

Sharpe Ratio = 1.644000

Volatility= 0.274000

number of records for the series after dropping na: 1017

average return 0.004884

[-0.00299837 0.00306292]

Reject Ho = The population distribution of rule returns has an expected value of zero or less (because p_value is small enough)

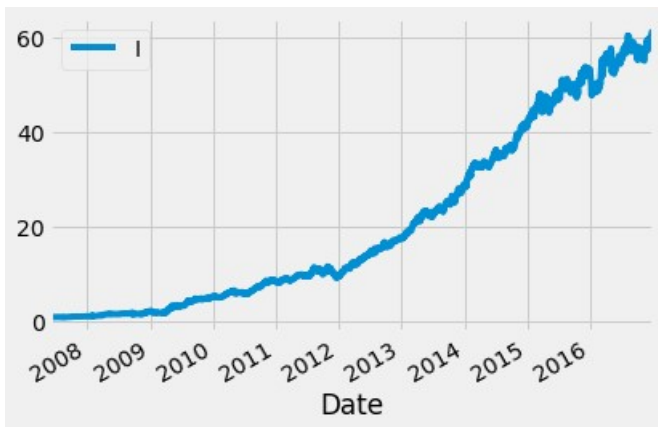
p_value:

0.0009000000000000119

===== (10, '1W-FRI-100%', 3, 1, 1, 1.5, -3) =====

E:\GitWorkSpace\v-ratio-momentum-and-ladder\computation_helper.py:278: RuntimeWarning: invalid value encountered in double_scalars

vratio = t/(lag*b);



TotaAnnReturn = 610.085900

CAGR = 50.680000

Sharpe Ratio = 1.728000

Volatility= 0.268000

number of records for the series after dropping na: 1017

average return 0.005840

[-0.0030268 0.00308424]

Reject Ho = The population distribution of rule returns has an expected value of zero or less (because p_value is small enough)

p_value:

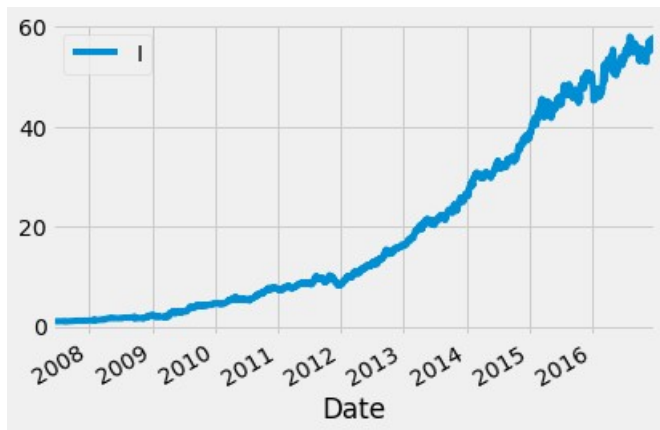
0.0001400000000000029

===== (10, '1W-FRI-100%', 3, 1, 1, 1.5, -2.5) =====

E:\GitWorkSpace\v-ratio-momentum-and-ladder\computation_helper.py:278: RuntimeWarning:

invalid value encountered in double_scalars

$$v_{ratio} = t / (lag * b);$$



TotaAnnReturn = 574.147320

CAGR = 49.780000

Sharpe Ratio = 1.693000

Volatility= 0.271000

number of records for the series after dropping na: 1017

average return 0.005535

[-0.00301734 0.00310617]

Reject Ho = The population distribution of rule returns has an expected value of zero or less (because p_value is small enough)

p_value:

0.00017999999999995797

===== (10, '1W-FRI-100%', 3, 1, 1, 1.5, -2) =====

E:\GitWorkSpace\v-ratio-momentum-and-ladder\computation_helper.py:278: RuntimeWarning:

invalid value encountered in double_scalars

$$v_{ratio} = t / (lag * b);$$



TotaAnnReturn = 640.313758

CAGR = 51.390000

Sharpe Ratio = 1.726000

Volatility= 0.272000

number of records for the series after dropping na: 1017

average return 0.005222

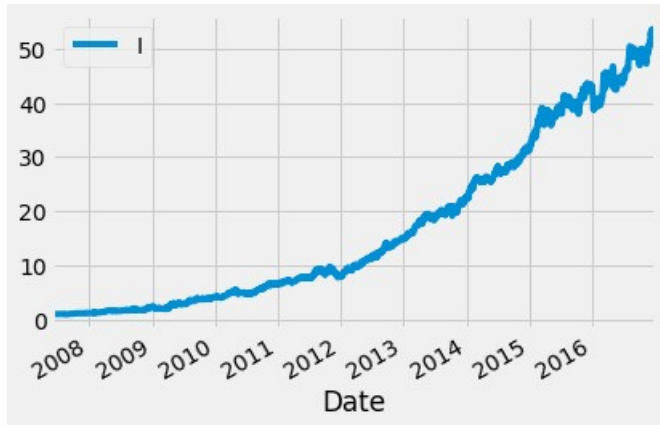
[-0.00297658 0.00305522]

Reject Ho = The population distribution of rule returns has an expected value of zero or less (because p_value is small enough)

p_value:

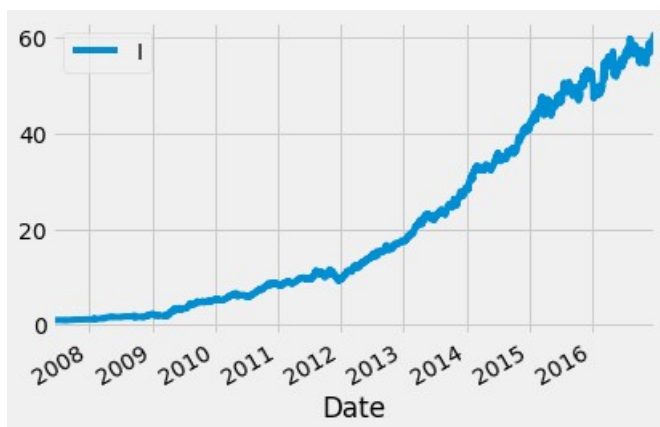
0.0004999999999999449

```
===== (10, '1W-FRI-100%', 3, 1, 1, 1.5, -1.5) =====  
E:\GitWorkSpace\v-ratio-momentum-and-ladder\computation_helper.py:278: RuntimeWarning:  
invalid value encountered in double_scalars  
    vratio = t/(lag*b);
```



```
TotaAnnReturn = 532.184173  
CAGR = 48.670000  
Sharpe Ratio = 1.644000  
Volatility= 0.275000  
number of records for the series after dropping na: 1017  
average return 0.004897  
[-0.00299263  0.00308269]  
Reject Ho = The population distribution of rule returns has an expected value of zero or  
less (because p_value is small enough)  
p_value:  
0.00082000000000000429
```

```
===== (10, '1W-FRI-100%', 3, 1, 1, 2, -3) =====  
E:\GitWorkSpace\v-ratio-momentum-and-ladder\computation_helper.py:278: RuntimeWarning:  
invalid value encountered in double_scalars  
    vratio = t/(lag*b);
```



```
TotaAnnReturn = 604.832504  
CAGR = 50.550000  
Sharpe Ratio = 1.724000  
Volatility= 0.268000  
number of records for the series after dropping na: 1017  
average return 0.005794  
[-0.00301682  0.0030936 ]
```

Reject Ho = The population distribution of rule returns has an expected value of zero or less (because p_value is small enough)

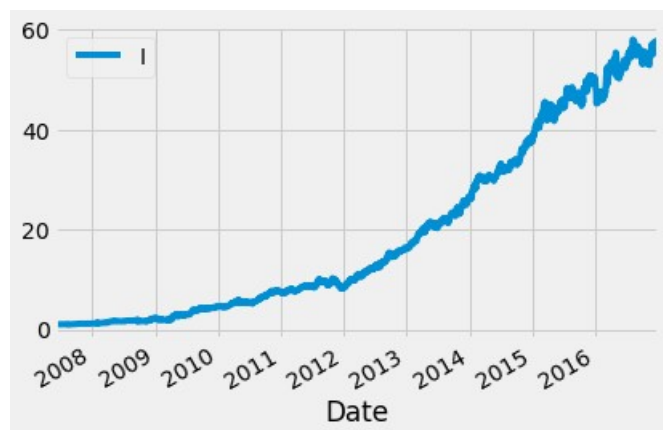
p_value:

9.999999999998899e-05

===== (10, '1W-FRI-100%', 3, 1, 1, 2, -2.5) =====

E:\GitWorkSpace\v-ratio-momentum-and-ladder\computation_helper.py:278: RuntimeWarning: invalid value encountered in double_scalars

vratio = t/(lag*b);



TotaAnnReturn = 574.147320

CAGR = 49.780000

Sharpe Ratio = 1.693000

Volatility= 0.271000

number of records for the series after dropping na: 1017

average return 0.005535

[-0.00306124 0.0030656]

Reject Ho = The population distribution of rule returns has an expected value of zero or less (because p_value is small enough)

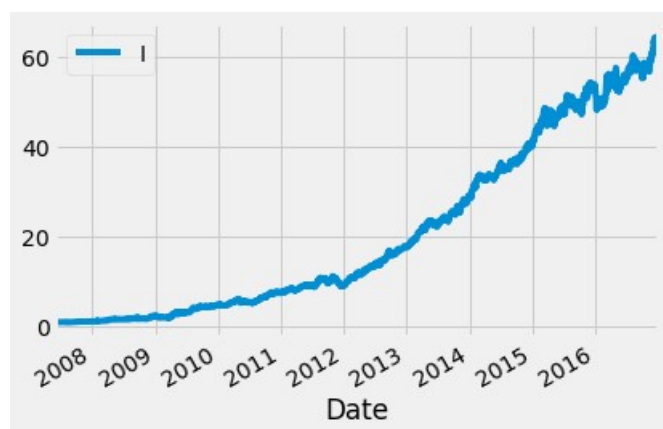
p_value:

0.00021999999999999797

===== (10, '1W-FRI-100%', 3, 1, 1, 2, -2) =====

E:\GitWorkSpace\v-ratio-momentum-and-ladder\computation_helper.py:278: RuntimeWarning: invalid value encountered in double_scalars

vratio = t/(lag*b);



TotaAnnReturn = 640.313758

CAGR = 51.390000

Sharpe Ratio = 1.726000

```

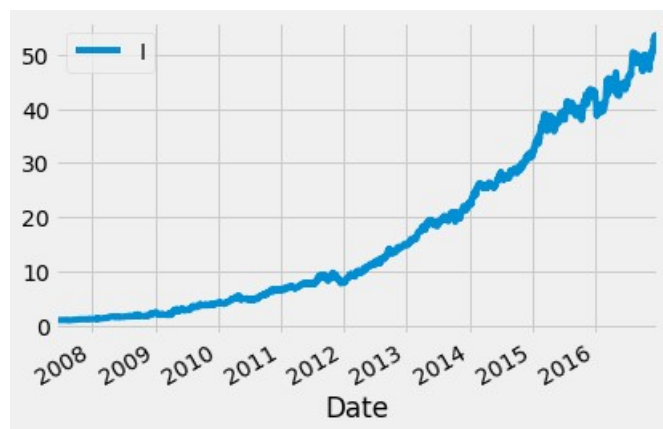
Volatility= 0.272000
number of records for the series after dropping na: 1017
average return 0.005222
[-0.0029897  0.00303659]
Reject Ho = The population distribution of rule returns has an expected value of zero or
less (because p_value is small enough)
p_value:
0.00048000000000003595

```

```

===== (10, '1W-FRI-100%', 3, 1, 1, 2, -1.5) =====
E:\GitWorkSpace\v-ratio-momentum-and-ladder\computation_helper.py:278: RuntimeWarning:
invalid value encountered in double_scalars
  vratio = t/(lag*b);

```



```

TotaAnnReturn = 532.184173
CAGR = 48.670000
Sharpe Ratio = 1.644000
Volatility= 0.275000
number of records for the series after dropping na: 1017
average return 0.004897
[-0.00300108  0.0030496 ]
Reject Ho = The population distribution of rule returns has an expected value of zero or
less (because p_value is small enough)
p_value:
0.00082000000000000429

```

In [31]: