

Quant SC

Tuesday, March 9th

Brain teaser

You have two ropes, each of which takes 1 hour to burn. But either rope has different densities at different points, so there's no guarantee of consistency in the time it takes different sections within the rope to burn. How do you use these two ropes to measure 45 minutes?

Brain teaser Answer

Light both ends of the first rope and one end of the second. 30 minutes later, the first rope will be completely burned. At that moment, light the second rope at the other end. When it is burned out, the total time has been exactly 45 minutes.

More on Implementation

The background of the slide features abstract, flowing shapes in shades of orange and red. On the left, there are overlapping wavy bands of light orange and a darker orange. On the right, a large, sweeping shape in a vibrant red color rises towards the top right corner, partially overlapping the orange shapes.

Logging, Debugging, and Plotting

```
self.Log(str)
```

```
self.Debug(str)
```

```
self.Plot('Metric Name', metric)
```

Performance Metrics

- Sharpe ratio, probabilistic Sharpe ratio
- Alpha/beta
- Win/loss rates, average win/loss
- Drawdown
- Treynor ratio
- Revenue : fees

Overview	Report	Orders	Insights	Logs	Code	Share	
Overview							
Overall Statistics <div>Download</div>							
PSR		13.267		Sharpe Ratio		0.063	
Total Trades		117		Average Win		0.71%	
Average Loss		-0.78%		Compounding Annual Return		0.209%	
Drawdown		11.900%		Expectancy		0.011	
Net Profit		0.246%		PSR		13.267%	
Loss Rate		47%		Win Rate		53%	
Profit-Loss Ratio		0.92		Alpha		0.004	
Beta		0.005		Annual Standard Deviation		0.083	
Annual Variance		0.007		Information Ratio		-0.636	
Tracking Error		0.297		Treynor Ratio		1.153	
Total Fees		\$302.38		Estimated Strategy Capacity		\$16000.00	
Rolling Statistics						Sharpe Ratio	
		1 Month		3 Months		6 Months	12 Months
01/31/2020		0		0		0	0

Leverage

What is leverage

Net exposure

UniverseSettings.Leverage

Benchmarks

- SetBenchmark()
- Tracking Error
- Information Ratio

**Let's look at an
algorithm!**

The background features abstract, flowing shapes in shades of orange and red. On the left, there are overlapping orange waves. On the right, there are overlapping red waves. These waves meet in the center, creating a gradient effect. The overall design is clean and modern, typical of a presentation slide.

Deliverables

- 1.) Finish preliminary research: document (on your GitHub readme) how you plan to generate signals, what you're generating signals on, etc.
- 2.) Begin structuring your code