



**BARUCH ASSOCIATION FOR
INFORMATION SYSTEMS**

PYTHON WORKSHOPS

Series I: Feb. 23rd - 12:30 - 2PM

Series II: Mar. 2nd - 12:30 - 2PM

Series III: Mar. 9th - 12:30 - 2PM

NOTE: We will conduct a giveaway for
three \$50 gift cards for students who
complete all three series.



baruch_ais



baruchais.com



Baruch AIS



Python Workshop Part II

Baruch AIS

A red speech bubble graphic with a white border, containing the text "What are we learning today?".

What are we
learning today?

Financial Stock Data Analysis

- 1) Load cells from last week
- 2) Analyzing Stocks
 - Trend Analysis
 - Risk Analysis
 - Return Analysis
- 3) End with Questions

Trend Analysis

Type of Moving Average:
**Exponential
Weighted
Average (EWA)**

- 1) Helps to determine a trend (upward/downward)
- 2) Calculated by using past prices
- 3) The **50-day and 200-day** moving average figures for stocks are followed by investors and traders → are important trading signals
- 4) If you are a **short-term investor**, use shorter time period for Moving Average calculation
Why? More sensitive to price changes
- 5) If you are a **long-term investor**, use longer time period for Moving Average calculation
Why? Less sensitive to price changes
- 6) A rising moving average indicates that the security is in an upward trend, while a declining moving average indicates that it is in a downward trend.

Risk Analysis

Standard Deviation

What does standard deviation measure?

- 1) Dispersion from its expected value
- 2) High standard deviation experiences higher volatility and signals a higher level of risk
- 3) Low standard deviation experiences lower volatility and signals a lower level of risk

Question:

Based on our analysis, would you recommend a risk-averse person to buy Tesla or Apple Stocks?

Return Analysis

Daily & Monthly Returns

1) Helps to monitor the magnitude of changes in stock prices

2) Calculated as the % change from previous day/month

3) Positive Value: Stock has grown in value
Negative Value: Stock has lost in value

4) Lower positive and negative returns can signal less risk of holding stocks but of course also LESS monetary reward

Investors get paid for their risk!

Rule of Thumb: The higher the risk, the higher the return!

Risk Analysis

Beta Value

What is Beta?

- 1) Measures the amount of systematic risk relative to the whole stock market (SP500)
- 2) Market Beta = 1
- 3) If Beta of stock is 1, stock strongly correlates with the market
- 4) If Beta > 1 , stock is aggressive:
More volatile than market
- 5) If Beta < 1 , stock is defensive:
Less volatile than market

Note: We won't cover this in the workshop but if you are interested, check out my YouTube channel and Github.

<https://www.codingfinance.com/post/2018-04-03-calc-returns-py/>

The background features a series of concentric circles in light gray, some solid and some dashed, creating a ripple effect. A large, solid red oval is positioned in the center-right of the frame. A dark gray, curved shape, resembling a thick comma or a stylized 'C', is located to the left of the red oval, partially overlapping it.

Well done!