Assignment – Super Simple Stock Market

# Requirements

1. The Global Beverage Corporation Exchange is a new stock market trading in drinks companies.
   1. Your company is building the object-oriented system to run that trading.
   2. You have been assigned to build part of the core object model for a limited phase 1
2. Provide the complete source code that will:-
   1. For a given stock,
      1. Show the Type, Last Dividend, Fixed Dividend and Par Value
      2. Given any price as input, calculate the dividend yield
      3. Given any price as input, calculate the P/E Ratio
      4. Record a trade, with timestamp, quantity, buy or sell indicator, price, and cash amount (quantity \* price)
      5. Calculate Volume Weighted Stock Price based on trades in past 5 minutes
   2. Calculate the GBCE All Share Index using the geometric mean of the Volume Weighted Stock Price for all stocks

# Constraints & Notes

1. Written in Javascript.
2. The source code should be suitable for forming part of the object model of a production application, and can be proven to meet the requirements. A shell script is not an appropriate submission for this assignment.
3. No database is required, all data need only be held in memory
4. No prior knowledge of stock markets or trading is required – all formulas are provided below.
5. The code should provide only the functionality requested, however it must be production quality.
6. **A GUI is required. Preferably use React.js**

### Table1. Sample data from the Global Beverage Corporation Exchange

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Stock Symbol | Type | Last Dividend | Fixed Dividend | Par Value |  |
| TEA | Common | 0 |  | 100 |  |
| POP | Common | 8 |  | 100 |  |
| ALE | Common | 23 |  | 60 |  |
| GIN | Preferred | 8 | 2% | 100 |  |
| JOE | Common | 13 |  | 250 |  |
| *All number values in pennies* | | | | | |

### Table 2. Formula

|  |  |  |
| --- | --- | --- |
|  | Common | Preferred |
| Dividend Yield |  |  |
| P/E Ratio |  | |
| Geometric Mean |  | |
| Volume Weighted Stock Price |  | |

V1.7