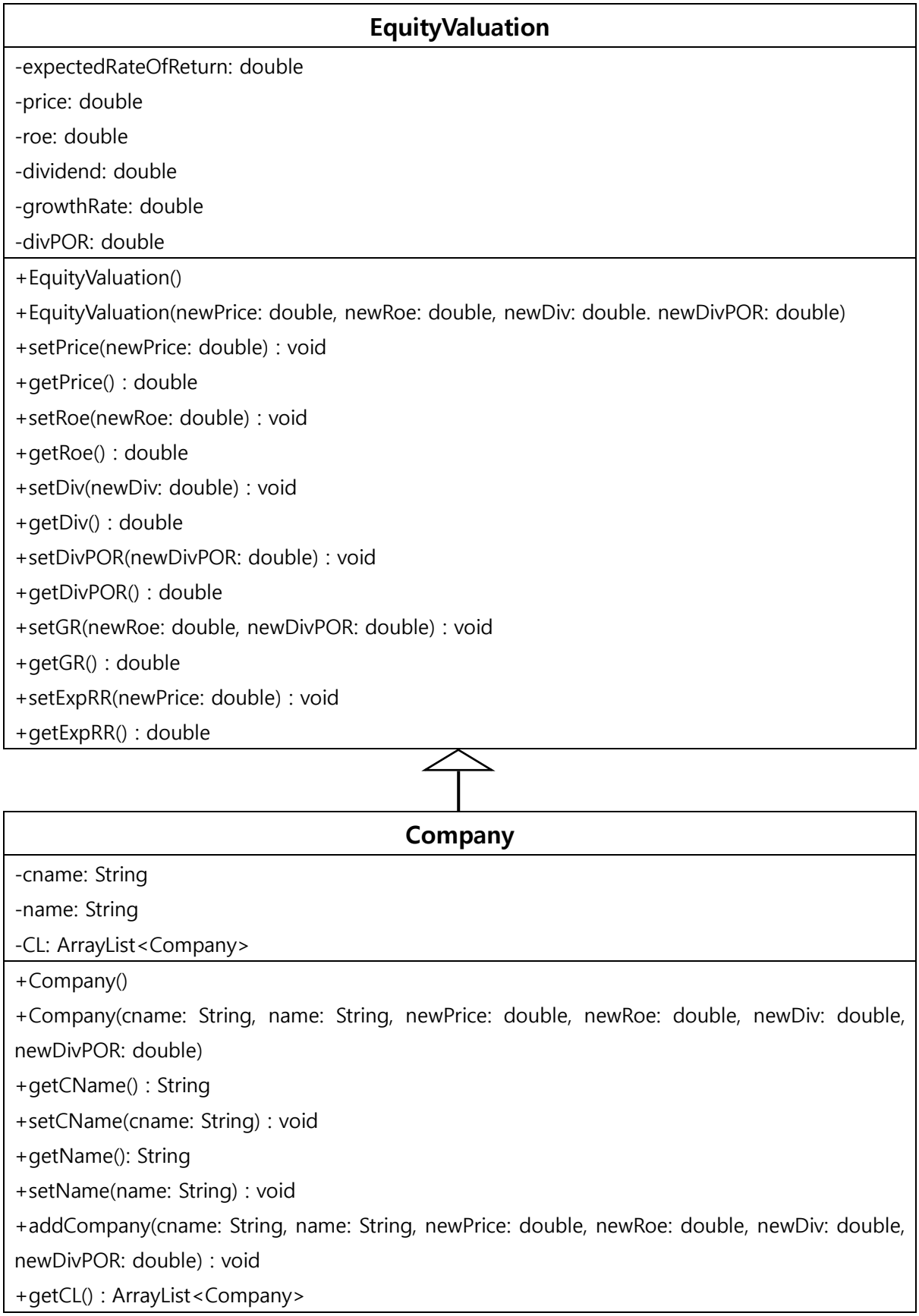
16101894 안재홍 Project Documentation (Object Oriented Programming Language)

UML diagram



StockPrice
+wmt() : double +aapl() : double +cvs() : double +ibm() : double +jpm() : double +orcl() : double +ms() : double +msft() : double +pfe() : double +v() : double +wm() : double +rs() : double

StockYieldCalculator
-tfCompany: TextField -tfSymbol: TextField -tfPrice: TextField -tfRRR: TextField -tfGR: TextField -tfInput: TextField -tfOutput: TextField -btRecommend: Button -btReset: Button -btShow: Button -btExit: Button -companyTitle: String[] -companyLogo: ImageView[] -cbo: ComboBox<String> -borderPane: BorderPane -gridPane: GridPane -taR: TextArea -btShows: Button -ev: Company -CL: ArrayList<Company> -btUpdate: Button
+start(Stage): void -update(index: int): void -calculateRequiredRateOfReturn(index: int): void -setDisplay(index: int): void

-reset(): void -recommendViewer(index: int): void -print(index: int): void -exit(): void +main(String[]):void

Purpose of an application

This application is useful for finding stock based on your required rate of return. I calculated stock valuation with dividend discount model. So, when you know the company future dividend, stock price and growth rate, you can calculate the estimated return. The growth rate is calculated by multiplied return on equity and retention rate (1 - dividend payout rate).

In this application, I chose 12 companies and got each company's real-time stock quote by URL crawling which I learned on Exception. So, a person who use it can find which company is suitable to invest in real-time.

I made it because I studied finance during this semester as well as Java. I wanted to implement combining two separate study area using my knowledge. So, the purpose of this application is that people invest stock easy with recommendation of "Stock Yield Calculator".

Use case

This application has one actor who using it. And I would call him as a user.

This application can show the basic information for the stock when user clicks the "Show" button. Ex) Company name, Symbol, Current Price, Growth Rate and Required Rate of Return.

User inputs his estimated return then clicks "Recommendation" button or presses Enter key , it shows whether recommend this stock or not. When his estimated return is larger than the required rate of return for each stock, application will display the "Not Recommend". Otherwise, it will show "Recommend".

When user clicks "See Better Recommendation" button, it shows user other companies that have better required rate of return. It will compare other companies automatically.

When user clicks "Update" button, it will update the real-time stock quotes and required rate of return based on the updated stock quote. And this will display the changed output on this application.

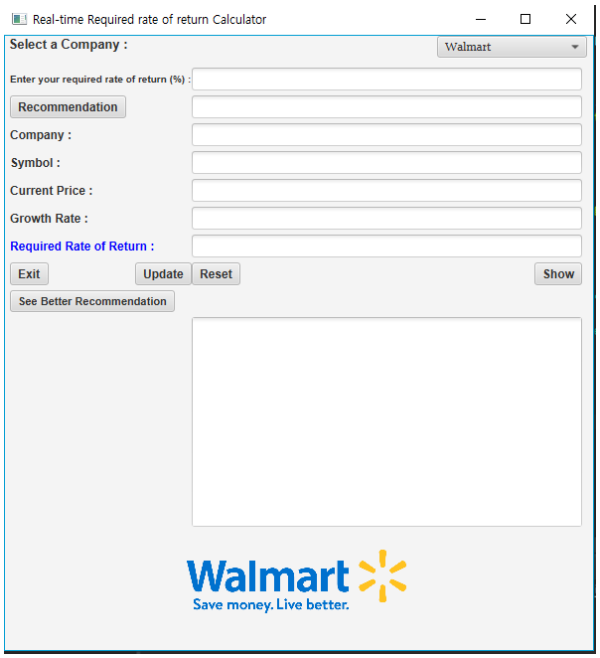
When user clicks "Reset" button, it will remove all the displayed information.

User can select a company by using a Combo box. There are 12 companies totally, so user can choose a company whatever he wants.

If user clicks "Exit" button, the application will be terminated.

Result when the application run.

The first scene when you run this application.



After selecting a company through Combo box, the scene that returns all the results.