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CMPT 220

## Project 2

### Gap Down Trading Method

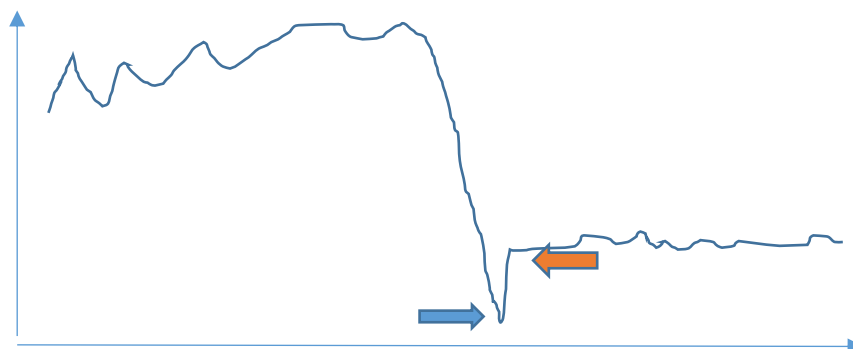
#### Abstract

This paper describes the Gap Down theory of investing and how to utilize it to make money. This strategy, without a program, is time intensive. By the time you isolate which stock you will buy and at which price, the opportunity has passed. This program will help expose young investors to the world of Technical Analysis – trading based on patterns in stock price rather than worth of a company. Just as GirlsWhoCode exposes girls to the Computer Science field, this program can show girls in high school how exciting Finance can be- and hopefully cause a Gap Up in the number of women finance majors.

#### Introduction

I plan to create code that can call information on stocks from Yahoo Finance and then use this information to buy, sell, or hold stocks. I want to use the Gap Down method to make profits on the stock market.

A “gap down” is when a stock’s price falls significantly. My code will tests companies for gap downs by showing whether or not their price has fallen 15% or more. The theory is that once a significant gap happens, you can buy at the lowest point and then sell once it rebounds, therefore making a profit.

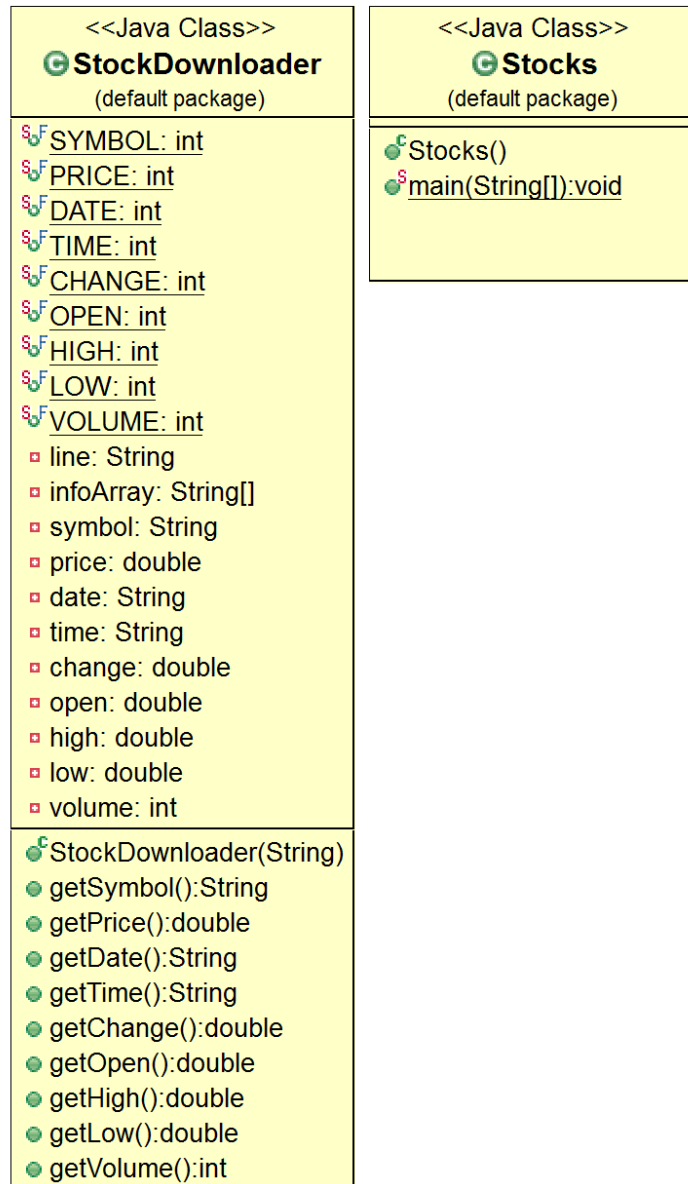


In the graph above, this is the usual pattern. If an investor can buy at the blue arrow and sell at the orange arrow, when the price begins to stabilize, then they can make a profit. This gap down happens because people are not rational. Usually, when bad news comes out, there is an overreaction in the market, and then there is a re-adjustment (where the orange arrow is). If I can profit off of this pattern by detecting when a stock drops 15% or more, buying at the low point, detect when it rises 10% or more from that low point, and sell, then I can make a considerable amount of money by repeating this process. My code will alert the user when the stock has gapped down, when it has rebounded, and when there hasn't been a significant change.

An investor could use my code in a few ways. If they see that there are companies that have come out with bad news, when the markets were closed, then they can use my code first thing in the morning to check if the bad news had produced a gap down.

## Detailed Systems Description

UML Diagram:



## Requirements

In order to run this program, it is necessary to have internet access. The program calls information using a URL, so the system will not function without internet access.

## Literature Survey

There are other, more advanced, systems which include other elements to the Gap Down strategy. Other systems can run the program continuously so that an investor never misses an opportunity during the day. Similar systems also include larger arrays, where the user can input multiple stock tickers at a time instead of running a loop to repeat the process. These systems are built in the IT departments of companies such as JP Morgan or Goldman Sachs.

## User Manual

To properly use the system, adhere to the following guidelines:

- Enter a proper stock ticker (not case sensitive)  
Ex.) AAPL or aapl for Apple → but “mmmmmmmm” is not a proper stock ticker
- The last line of code that is printed will tell the user to sell, buy, or hold
- Finally, the code prompts the user by asking if they wish to analyze another stock
  - Anything that starts with a “Y” or a “y” will be accepted as yes,
  - Anything that starts with a “N” or a “n” will be accepted as no,
  - Ex.) “y no thanks” is read as “yes”  
Ex.) “nothing would please me more” is read as “no”

## Conclusion

Even though this system is simple, it has a huge impact. With this alone, an investor can make thousands of dollars in profit. I, myself, have traded using this gap down method- without the aid of a program- and have made a hefty return on my investment. When trading stocks, speed is essential. By

using this program, an investor can gain a competitive edge. This program will allow an investor to detect gap downs quicker because it eliminates the need to do manual calculations and immediately alerts the user to buy or sell.