STOCK MARKET PROJECT NOTES

YAO GBANAGLO & GAUTAM SISODIA

1. Plan

Step 0: Collect and organize data
Step 1: Develop simple suggestion algorithms
Step 2: Track suggestion algorithms
Step 3: Evolve suggestion algorithms
Step 4: ...
Step 5: Profit

1.1. Abstract algorithms.

An **exchange algorithm** is a function f which takes as input data D an n-dimensional array and outputs a number

$$-100 \leq x = f(D) \leq 100 :$$

- if $x > 0$ then buy using $x\%$,
- if $x < 0$ then sell $x\%$.

Generally an exchange algorithm is described informally, which is naively implemented as a list of conditionals.

Example 1.1. Suppose D is the $[(n+1) \times 1]$ matrix

$$D = \begin{bmatrix} p_0 \\ p_1 \\ \vdots \\ p_n \end{bmatrix}$$

of the prices of a company for the last $n+1$ day. The exchange algorithm implementing

- Buy using $x\%$ if the price has increased by $p\%$ today
- sell $x\%$ if the price has decreased by $p\%$ today

is

Example 1.2.

Question 1.3.

To facilitate evolution, we suggest

Date: April 18, 2013.