

Explanation on the objective function & constraints:

- The number of unknown variables is taken as (number of trades X number of days) for brevity. Even if a trader doesn't have a sell/buy order on a given day, an unknown variable is assigned to it to make a uniform matrix. (Note: Trailing days with no trade inputs are ignored).
- The objective function sets coefficients of each variable of objective function to +1 for sell and -1 for buy to simulate the absolute function that will be maximized.
- A switching window constraint is added for each trade input that is at least max_switching_window number of days ahead of the final trade day. If a trade is **buy**, set coefficient to 1, the same coefficient 1 for all **sell** trades within **the switching window**, all the other buy trades within the switching window are ignored with a 0 coefficient for the constraint. If a trade is **sell**, set coefficient to 1, the same coefficient 1 for all **buy** trades within **the switching window**, all the other sell trades within the switching window are ignored with a 0 coefficient for the constraint.
- A daily constraint is added such that sum of the trades matched for each trader in day is zero by setting the values of the coefficient matrix to 1 for each unknown variable that relates to a particular day.
- A trader wise constrain is added such that the sum of all the trader for the entire period for each individual trader is zero by setting the values of the coefficient matrix to 1 for each unknown variable that relates to that trader in the entire period.

The values below are the coefficients of objective function, the day wise equality constraint, the trader wise equality constraint and the switching window offset constraints for the sample test case.

[illegible]