Part 1

Attached is an example of something that we call a fill file. A fill is just a single trade, so a fill file is just a list of the trades we've done, one fill per line.

The file has a header which tells what each column is. (Don't assume columns are always in the same place)!

Don't worry about what the order ID or Route means.

Please write a VBA spreadsheet that reads a text fill file like this and will tell the user the PnL in a particular symbol from the trades in the fill file.

Your spreadsheet should have two input cells: one for the fill file path and one for the symbol to get the PnL for. The output should go into a third cell that will display the PnL for the trades in the fill file in the specified symbol.

The PnL is the net market value plus net cash resulting from a set of trades. For example if you buy 1000 IBM for $99 per share and sell 600 IBM for $102 per share and the fair price for IBM is $98 then your PnL in IBM is:

(-1000 * $99 + 600 * $102)[cash] + (400 * $98)[market value] = $1400

Note that the PnL from a group of trades is just the sum of the PnL's for each individual trade.

Use the price of the latest trade in the symbol as the fair price for that symbol.

The goal of the exercise is to write functional VBA, so DO NOT use Excel formulas and don't spend much time on the user interface.

Although there may be other ways to accomplish the task, please create a Class Module called Trade that represents and contains the data for a trade. Note that a single instance of Trade should contain the data for exactly one line (fill) in the fill file.

Please build a PnL function as a property of the Trade object, that takes a fair price, and outputs the PnL from that Trade. The function should look like:

(within the code of the class object)

```
Public Function pnl(fair_price as Double) as Double
```

Calculations involving a single trade (and potential external arguments such as fair) should normally be done within the class object (so that, for instance, you keep them if you export to another module).

Part 2

If you haven't done so already, make it so you only have to read the file once but can still output the PnL for any symbol the user enters.

One way to do this is to store the necessary data in a Stock Class Module. The interface to the Stock object should look like:

```
    Public symbol as String
```

```
Private fair_price as Double 'the price of the most recent trade added to the trades collection
Private trades as Collection 'contains the trade objects for the stock
Public Sub add_trade(trd as Trade) 'adds the trade data to the Trades collection
Public Function pnl() as Double 'returns the pnl of all the trades in the stock object marked to fair_price
```

You should store these Stock objects in a dictionary. The keys to the dictionary should be the symbols in the fill file, and the value for a symbol should be a Stock object.