C++ Interview Question

In this project you are required to create an application that will take an input file in csv format and generate an output file calculated from the input file. Please use C++ for this project.

We are interested in your coding ability with the emphasis on the following aspects:

- Design
- TDD or tests in case you have not used TDD
- Modern C++
- Correctness
- Efficiency
- Self-documenting code

Input file format:

Each line represents a quote for a ticker.

<Timestamp>,<Ticker>,<Bid>,<BidSize>,<Ask>,<AskSize>,<Volume>

The timestamp is in increasing order in minutes.

Output file:

The output file should contain the following metrics for each ticker and it should be sorted by ticker.

<Ticker>,<Max of (Ask - Bid)>,<Min of (Ask -Bid)>,<Sum(Volume)>,<Max Timestamp difference between consecutive quote for a ticker>,<Sum(Bid*AskSize + Ask*BidSize)/Sum(AskSize+BidSize)>

Design

Design it in such a way that it is easy to:

1. Change the input file format. Fields can be added/removed, sequence can be changes, and delimiters can be changed.
2. Output file metrics can be changed. For example metrics can be added/removed, order of metrics can be changed.
3. Add tests
4. Enhance the performance.

Please let us know how many hours it took for you to code it and please send us the output file, source code, and a readme.txt detailing the design and any improvements that did not get time to do w.r.t performance or design.