**1) Please document any design decisions you have made while building your program,**

**and the rationale behind it.**

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| --- | --- |
| Subject Area | Application structure |
| Decision Statement | The application should be based on simple ,non-multithreaded and c++ . |
| Problem Statement | The solution should be maintainable to load data from file ,parsing and have separations of transaction values which will using for calculate output and reconciliation |
| Assumptions | Four files and one of them(ppro) is main |
| Constraints | Missing columns and bad headers |
| Argument / Decision criteria | -application maintainability,Application expandability,Resources capabilities  -Description of each element, e.g. name, type;  -relationships between the elements, i.e. the structure;  -range of possible values of each element;  -initial values of each element. |

**2) How performant and scalable is your program? What input sizes do you expect to be**

**able to handle**

These are the results of the runs, load,compare lines, maximum of files is 4 and just 1 is reference.Maximum total lines of files that i expected is 10k.

Testing Notes  
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Testing PC was an Intel i5-7300u cpu @2.6GHz, and   
8gb ram ,64bit, compiled by VS 2017 c++ compiler, and run on   
Windows 10 OS.

RUN# Elapsed time Total Rows in files

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#1 0.01 seconds 27

#2 0.09 seconds 100

#3 1.10 seconds 1000

#4 3.84 seconds 10000

**3) Lets assume you want to run your program on a device with limited memory (say**

**256MB). How will your program perform? Would you need to make any changes? If**

**so, please outline these**.

Probably it will face to stack overflow or loading data from file ,parsing and compare take longer time.

Sorting a very large amount of data, that can't fit into memory at one time,For solve that using some external sorting algorithms will be useful;it is classic divide and overcome problem,i can sort up and compare part of data,putting these into files.and then merge them.