Guide to LA Reference

Files

File Layout

|  |  |  |
| --- | --- | --- |
| Type | Name | Fields |
|  |  |  |
| Input | rulesin.txt | From, To, Fraction |
| Input | costin.txt | From, Amount(, Category) |
| Output | rulesout.txt | From, To, Fraction |
| Output | costout.txt | To, Amount |
| Output | traceout.txt | From, To, Amount(, Category) |

General Notes

The purpose of LA Reference is to be a reference for developers of Lattice Allocation (LA) software. It provides an example of a straightforward way to implement LA. It can also be used in program testing as a source of correct results for comparison.

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In order to make the algorithm as visible as possible, the implementation has no options and few features. For example, there is no error checking of the inputs. This would certainly not be appropriate for a production program but serves to reduce the size of the program and better expose the algorithm. Certain specific file names must be used.

LA Reference is coded and tested in Python, Version 3.6. Python was chosen because it will run anywhere and because the constructs are simple to express, when you know how.

Files Notes

Names (From, To, or Category) may be composed of upper case letters, lower case letters, numerals, dashes, or hyphens. No spaces or other special characters.

Amounts or Fractions may be composed of the numerals 0-9 and one decimal point. No +, -, $, % or other special characters.

The format is CSV (Comma Separated Values) as recognized by the Python interpreter. In general CSV is a very flexible format. However, for this LA Reference application, it is limited in order to simplify the program. As would be expected, the fields in the records are separated by commas. A Microsoft Word file ordinarily has non-printed format information in a file. This not suitable for LA Reference files.

The rulesin.txt file consists of identification of From, the name of the service department providing cost; To, the name of the production department receiving a portion of the cost; and Fraction, the fraction of the service department cost going to that production department. “To” may also be called the Target or Destination. There is a record for each “element” of a rule. For example, if a rule is “HR costs go 10% to IT, 50% to Cars and 40% to Trucks” then a record for one element could be

HR, Cars, 0.40

Note that equivalent fractions are used, not per cents.

The costin.txt file consists of the From name and the Amount to be allocated. Partial cost from a service department may be entered in more than one record. The costs sum to the total from that department. Optionally a category name may be included. In the sample input files provided with the program, “Fixed” is coded in a record as below

Dept A, 200000, fixed

The rulesout.txt file is in the same format as the rulesin.txt file. However, the content is transformed rules that only allocate directly to production departments.

The costout.txt file has the same format as costin.txt. However, the content is cost after allocation, summarized for To destinations, i.e., each production department.

The trace.txt file is very detailed and can be used for analysis of the allocation results. It can be sorted, totaled, and subtotaled in any order, using the From, To, and (optionally) Category fields as keys. For example, it can be used to show exactly where a production department’s allocations came from, exactly where a service departments allocations ultimately went, and where some identified category of costs went.

Execution

The program Python code must be in a location visible to the Python interpreter, Version 3.6 or later. This would depend on the platform. To run the program, simply double-click on reference.py. The files will be read from and written to the same directory.

Happy trails.

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19 July 2018