

## Connaught Factsline Ltd Programmers Exercise 1

### *Simple Statement Parsing and LibXML2 Output*

|                            |  |
|----------------------------|--|
| <b>Input</b>               | Single text file, no formatting present, blank lines suppressed. Variable length entities.                                       |
| <b>Output</b>              | Hierarchical XML file with sensibly named tags.  |
| <b>Platform</b>            | Should be capable of compiling and running on (1) MS Windows (MSVC++) and (2) Linux/BSD/OSX (GCC) without changes to the source. |
| <b>Language</b>            | C or C++   |
| <b>Resources</b>           | libxml2 ( <a href="http://xmlsoft.org/">http://xmlsoft.org/</a> )  |
| <b>Estimated task time</b> | Under 3 hours for those with no prior libxml2 experience.  |

Your task is to employ either the freely downloadable MS Visual C++ 2008 Express Edition (for Windows) or GCC (for unix-like operating systems) in conjunction with the free Gnome XML C Parser Toolkit (libxml2) to produce a sensibly and properly structured XML file from the input file enclosed.

The data file is an extract from a flat text print output from a customer's statement run. An annotated printout of the file is attached depicting what the various sections of the file indicate, and would make sensible names for XML tags.

We employ a variety of operating systems, so demonstrate the use of portable code where appropriate and use pre-processor instructions to switch to alternative functions on different platforms if necessary.

It is **not** necessary for you to develop and test the code on both platforms, however if you choose to use an OS-dependent library, you need to demonstrate you've researched the alternative for the other main platform and provide the preprocessor code to switch between the methods.

The structure of the produced XML file should be flexible enough to accommodate reasonable variations in the input file (for example, multi-page documents, very long addresses) and the code produced should be legible, maintainable and upgradable.

The program should return an identifiable error code on encountering a problem, and inform the operator via standard error. If successful, the program should complete silently.

Please return submissions to Mickel Bak, [mb@connaught.co.uk](mailto:mb@connaught.co.uk), including the source, the input, the output and any additional libraries used.

ADDRESS LINES 1 TO N

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Reason Ltd  
Blackhorse Lane  
Pittsborough  
Near Wellington  
West Sussex  
FH20 3AG  
(1/09/09) DATE 1  
Your Ref: J-YREF

Maize Produce Ltd

Blue Tit  
31 South Street  
Hastings  
Sussex  
FH12 7RJ  
1/09/09  
Your Ref: D069/BLACKJUG

Terms: 30 days

DATE 2  
(1/09/09) (Sterling)

Currency

1/08/09 43535 56.58  
3/08/09 43577 30.08  
4/08/09 43613 20.86  
5/08/09 43650 25.53  
6/08/09 43683 13.87  
8/08/09 43752 56.03  
10/08/09 43790 29.63  
11/08/09 43824 12.99  
12/08/09 43874 33.95  
13/08/09 43909 26.02  
14/08/09 43954 4.82  
15/08/09 43993 53.60  
17/08/09 44036 9.22  
18/08/09 44071 26.62  
19/08/09 44108 14.47  
20/08/09 44141 26.53  
21/08/09 44185 4.66  
22/08/09 44223 53.98  
24/08/09 44267 8.75  
25/08/09 44305 29.42  
26/08/09 44334 26.14  
27/08/09 44376 20.63  
28/08/09 44419 15.98  
29/08/09 44461 84.15  
[ 684.51 ] TOTAL 1

1/08/09 43524 113.39  
3/08/09 43559 86.41  
28/08/09 44392 100.13  
29/08/09 44430 335.02  
2845.31

1/08/09 43506 65.55  
4/08/09 43586 8.39  
5/08/09 43618 38.60  
6/08/09 43687 18.70  
8/08/09 43726 68.21  
17/08/09 44007 21.28  
20/08/09 44112 33.86  
21/08/09 44154 20.93  
22/08/09 44194 104.95  
26/08/09 44307 60.10  
28/08/09 44384 29.93  
29/08/09 44442 144.52  
771.78

Terms: 30 days

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CLAPHAM - CUST

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