

Windfall Programming Assignment

A spreadsheet consists of a two-dimensional array of cells. Columns are identified using letters and rows by numbers (C2 references a cell in column 3, row 2). Each cell contains either a number or an expression. Expressions contain integers, floating point numbers, cell references, and operators ('+', '-') and are evaluated with the usual rules of evaluation.

Write a program to read in a spreadsheet, evaluate the value of each cell, and output the values to a file.

Input Format:

- A csv file with m rows and n columns
- The input file will have no headers
- Cells will not be surrounded in double quotes

Output Format:

- A csv file (to stdout is fine) with the same dimensions as the input file
- Each cell should be output as a floating point value. Round output values to two decimal places.

Example:

input.csv
,,

B2+2,A1+A2

B2-3,7+5

,,

output.csv
,,

14.00,23.00

9.00,12.00

,,

Requirements

- The spreadsheet should be able to evaluate expressions containing cell references, integers, floating point numbers, and the addition and subtraction operators. It is not required to support multiplication or division
- Support for up to 26 columns (A-Z)
- The spreadsheet should detect circular references and exit appropriately
- Solutions should define a main method in a class named `Spreadsheet`
- Solutions should only use core libraries

Grading (in order of importance)

1. Functionality
2. Edge case & error handling

3. Object oriented approach
4. Code design & cleanliness

****Estimated time to finish****
2-3 hours

****Submission****
Please submit a tar, zip, or any compression file to your recruiter.