

Memorandum

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Implement spreadsheet program in Java version 8.

The method specifications for the spreadsheet interface are shown below:

- buildSpreadsheet:
 - o Inputs: A 2D array of formulas
 - o Outputs: a spreadsheet
- findValue:
 - o Inputs: integer position coordinates corresponding to matching cell
 - o Outputs: Numerical value of cell
- addFormula:
 - o Inputs: Formula and integer coordinates of a cell
 - o Outputs: An updated spreadsheet with new formula added to given cell

A Formula is an interface with one of the following implementations:

- NumberFormula
- CellPositionFormula
- AdditionFormula
- MultiplicationFormula

Formula has the following method:

- Evaluate
 - o Output: Number

NumberFormula contains one field with a number

- Evaluate returns the number

CellPosition formula contains one field with a cell position

- Evaluate returns the numerical value of the cell position

AdditionFormula contains two formula fields

- Evaluate returns the numerical value of the two formulas added together

MultiplicationFormula contains two formula fields

- Evaluate returns the numerical value of the two formulas multiplied together