Encapto Developer Challenge :  
  
The task required to make a program which processes a CSV file according to some rules.  
The file is read through the command line, parsed, and then processed.

The program will terminate normally except 3 cases :

1. CSV file provided is empty.

2. CSV file is not even provided on the command line.

3. CSV file provided has inconsistent number of columns.

4. The value of rows or columns passed is invalid.

In all other cases, even when the values passed are invalid or erroneous, the program execution is not halted and in these instances, all such values are defaulted to #ERR.  
  
I have opted recursion to deal with cells referencing other cells and then processing their sum. Circular dependencies have been dealt with by usage of a set which keeps tracks of all the cells being referenced. Since grid size is not specified, there may be instances where the recursion exceeds the stack size and incorporating iterative algorithms like stacks or optimization-based techniques like tail call optimization in my code would perhaps have been a better decision.

However, that would have made the code far more complex and based on the problem statement, I deemed that going with basic recursion is perhaps a better design decision for this case.  
  
One more thing to point out is that my program only takes columns from A to Z, which means that the grid can only have 26 unique valid columns. I did think about adding double letter columns as well but I felt it would have been overkill for this particular task. Moreover, having a cap of 26 unique columns makes it far less likely for the stack to overflow based on the recursive calls. However, with 2 letter columns, the chances of that happening are much higher.

Also, in a similar vein, the sum can be attributed to a float in case of the sum becoming exceedingly large. However, again, I used integer for my code.

I have then conducted unit testing with Jest and have a total of 14-unit tests attempting to cover all possible input conditions. I did spend more time than I wanted to on testing having never worked with Jest before but I think I am satisfied with the testing I have done.

TO RUN :  
  
encapto-developer-challenge/node csvManipulation.js \*CSV\_FILE.csv\*(data.csv in source code)