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**Assignment 2**

Initialize values stack

Initialize operators stack

Read file with equations

While the file has a next line

Take each line and split it for each character

For each element of the array

If element equals to (

Push into operators stack

If element equals to )

While the top of the operations stack is not equal to (

Do all operations in between the two parenthesis

Pop out the ( in the operator stack

If element is a number

Push into values stack

Else

Do the operation

Push element onto the operation stack

Print out the calculated value in the value stack by popping it and write it on the output file

The time complexity of my algorithm is O(n) because once an operation is put into the stack, it is calculated right away. The memory complexity of this algorithm is also O(n) because there are only two stacks that are used which makes it 2n. The rest of the calculations are constant therefore it is O(n).