Report of Assignment 4

21827464   Hasan Furkan GÜNAY   June 11, 2020

1   Problem

In this assignment we are expected to perform the operations requested from the command file. After the operations, we want to create output files and update files according to command file.

2   Algorithm

My algorithm has basic read, operate and write functions. First of all, I read the inputs given from stack and queue file and saved them in stack or queue data structures. Then, I read command file and made changes in stack and queue structures according to given orders. Finally, I wrote last structures to stack file and queue file for update. And I wrote changes to stackOut and queueOut files.

3   Analysis of A Method(removeGreater)

When we call removeGreater method, firstly we start an iteration till elements finish. Then, in this iteration we POP or DEQUEUE an element. If the given number is greater than that element, we PUSH or ENQUEUE that element to different structure.

COMPLEXITY OF METHOD

a-) Space Complexity

We use a variable named "value" to assign POP or DEQUEUE element. So that, space complexity of this algorithm is O (1).

b-) Time Complexity

We use a while loop to removeGreater operation and it iterate till elements finish . So that, time complexity of this algorithm is O(n).