

**Hacettepe University**

**Computer Science and Engineering Department**

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**Identify Number :** 21828035

**Course :** BBM104 Laboratory

**Experiment :** Java Assignment 4

**Subject :** Data Structures

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## **WHAT IS THE PROBLEM ?**

Problem is creating Stack and Queue for the first time and use them for Data Storing.

## **WHAT ARE CLASSES DOING ?**

Main class where we access all code

Methods class is using stacks and queues for and changing files.

Fileio class is taking all the informations.

Writer class is where we making new files and writing on them.

Queue1 is what we created for queue Data Structure it is storing informations.

Stack1 is what we created for stack Data Structure it is storing informations.

## **HOW TO SOLVE THIS PROBLEM ?**

1-We use arraylists for storing in Stacks and Queues just to make our job little bit easier.

2-We put all informations that data structures and of course arraylists.

3-Then we read command.txt and we are doing what is it saying.

4-We write all the informations in file at the same time we are doing them.

## **ONE OF THE ALGORITHMS ?**

In Remove Greater for Stacks method. First we take last index of stack to an variable. Then we check if the number is smaller or greater from given number. If it is lesser then we push the variable to stack 2. We do this to all indexes. At last we pop all the information from the stack 2 and push them to stack 1

## **ANALYSIS:**

Time complexity is  $O(n)$ .

Space complexity is  $O(n)$ .