

GIT Department of Computer Engineering
CSE 222/505 - Spring 2021
Homework 4 Report

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SYSTEM REQUIREMENTS

the purpose of this project is to implement the heap structure

We can search for an element in this heap structure.

we can merge with another heap

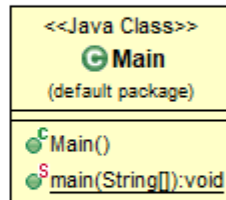
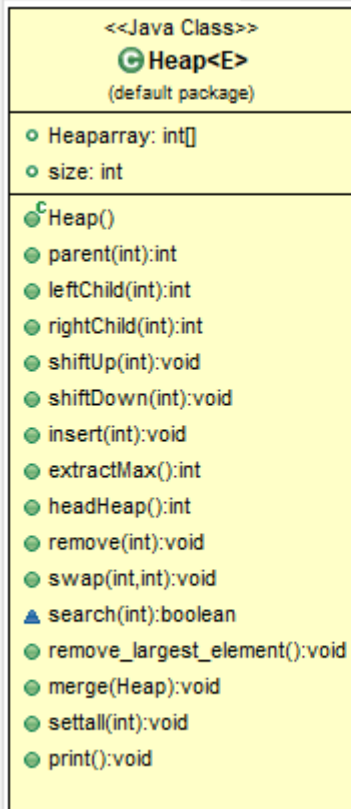
we can Removing i^{th} largest element from the Heap

It has its own iterator in the heap structure. With this iterator we can find the last element and change it.

To use the system, you must have an environment where you can run java.

This software intellij idea was written in the latest version.

- **USE CASE AND CLASS DIAGRAMS**



• PROBLEM SOLUTION APPROACH

In order to be able to do the project, it is necessary to know the heap subject well. First, it was necessary to revise the heap subject one by one. Then, when you do a few examples of min heap and max heap, you determine how to do add and remove methods. We are changing the data using iterator in the project, so I overrided it by implementing the iterator in the heap class. the name of its iterator class is Hiterator. We are enlarging this iterator by adding a function to change the last element

• RUNNING AND RESULTS

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Main x
"C:\Program Files\Java\jdk-15.0.2\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\Int
First Heap: 10 5 6 2
Second Heap: 12 7 9
inside the first heap we're searching for the number 22
Search for 22: false
we merge the first heap and the second heap: 12 10 9 2 5 6 7
Removing ith largest element from the Heap: 10 7 9 2 5 6
set the value (iterator)
we replace the last element with the number 16: 16 7 10 2 5 9
Process finished with exit code 0

```