

GTU Department of Computer Engineering
CSE 222/505 - Spring 2021
Homework 5 – Part 1

205008003010

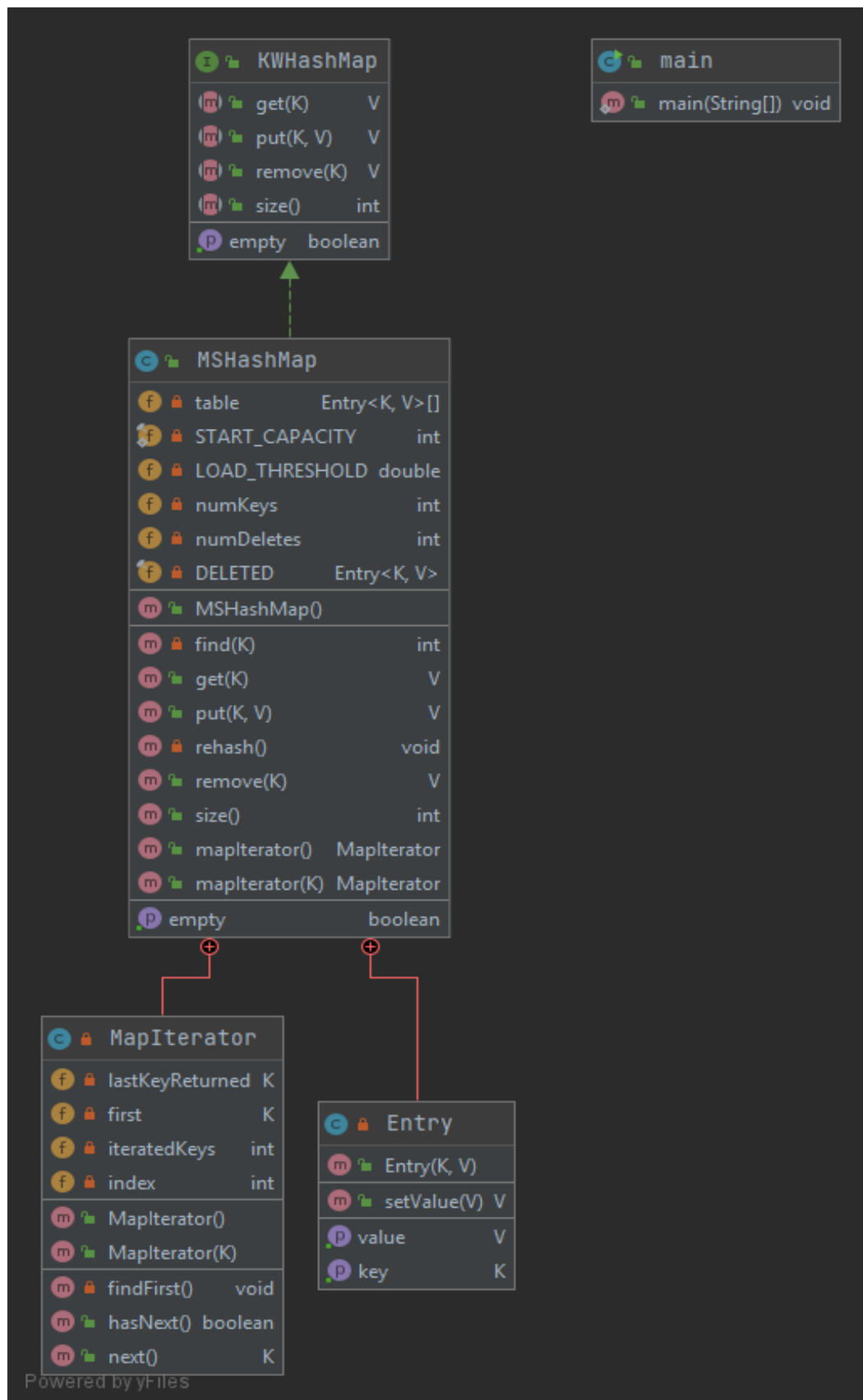
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-Problem Solution Approach

MapIterator class was used as an inner class in MSHashMap class to iterate the MSHashMap keys. This class contains lastKeyReturned, first, iteratedKeys, index variables. -lastKeyReturned variable stores the last key returned. -first variable stores the first key returned. -iteratedKeys variable stores the number of iterated keys. -index variable stores the current index in the table.

No parameter constructor finds the first element in the hash table and starts iterating. The other constructor finds the given key in the hash table and starts iterating from that index. It returns the first key when there is no not-iterated key in the map.

-Class Diagram



-Running and Results

File - main

```
1 "C:\Program Files\Amazon Corretto\jdk11.0.10_9\bin\java.exe" "-
  javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2020.3.2\lib\idea_rt.
  jar=58345:C:\Program Files\JetBrains\IntelliJ IDEA 2020.3.2\bin" -Dfile.
  encoding=UTF-8 -classpath C:\Users\murat\Desktop\YL\PDF\spring\
  cse222\HW5\Part1\out\production\Part1 main
2
3 MapIterator with default constructor
4 Size: 6
5 Iteration: 0 Key: 10
6 Iteration: 1 Key: 20
7 Iteration: 2 Key: 30
8 Iteration: 3 Key: 40
9 Iteration: 4 Key: 50
10 Iteration: 5 Key: 60
11 Iteration: 6 Key: 10
12 Iteration: 7 Key: 10
13
14 MapIterator with present key value
15 Size: 6
16 Iteration: 0 Key: 40
17 Iteration: 1 Key: 50
18 Iteration: 2 Key: 60
19 Iteration: 3 Key: 10
20 Iteration: 4 Key: 20
21 Iteration: 5 Key: 30
22 Iteration: 6 Key: 40
23 Iteration: 7 Key: 40
24
25 MapIterator with key value(non present)
26 Size: 6
27 Iteration: 0 Key: 10
28 Iteration: 1 Key: 20
29 Iteration: 2 Key: 30
30 Iteration: 3 Key: 40
31 Iteration: 4 Key: 50
32 Iteration: 5 Key: 60
33 Iteration: 6 Key: 10
34 Iteration: 7 Key: 10
35
36 Size: 0
37 java.util.NoSuchElementException
38
```