

Gebze Technical University

Computer Engineering

CSE222-2021-SPRING

Homework-5 Report

Ferdi Sönmez

161044046

Part1:

1)INTRODUCTION

1.1)Problem Definition

In this homework , we are asked to implement the HashMap and add some functions and write them.

2) Problem Solution Approach

In the problem solution, it is completed by converting the hashmap structure to the set structure with entryset and after this conversion process, using the iterator in the set structure, it has been completed.

3)Test Case

a) Many values have been added by defining the hashmap structure.

```
MyHashMap<Integer,String> myHashMap=new MyHashMap<>();  
myHashMap.ADD(1,"ferdi");  
myHashMap.ADD(2,"Osman");  
myHashMap.ADD(3,"Veli");  
myHashMap.ADD(4,"Veli1");  
myHashMap.ADD(5,"Veli2");  
myHashMap.ADD(6,"Veli3");  
myHashMap.ADD(7,"Veli4");  
myHashMap.ADD(8,"Veli45");
```

b) After the hashmap structure is completed, a new iterator and the desired value are asked to start.

```
MyHashMap<Integer,String> myHashMap=new MyHashMap<>();  
myHashMap.ADD(1,"ferdi");  
myHashMap.ADD(2,"Osman");  
myHashMap.ADD(3,"Veli");  
myHashMap.ADD(4,"Veli1");  
myHashMap.ADD(5,"Veli2");  
myHashMap.ADD(6,"Veli3");  
myHashMap.ADD(7,"Veli4");  
myHashMap.ADD(8,"Veli45");  
MyHashMap.MapIterator iter=myHashMap.iterator( key: 3);
```

c) The hashmap structure started with the key value of 3 and printed it on the screen until the end.

```
"C:\Program Files\Java\jdk-13.0.2\bin\  
4=Veli1  
5=Veli2  
6=Veli3  
7=Veli4  
8=Veli45
```

d) The iterator has gone to the next element of the key with a value of 3.

```
myHashMap.ADD(3,"Veli");  
myHashMap.ADD(4,"Veli1");  
myHashMap.ADD(5,"Veli2");  
myHashMap.ADD(6,"Veli3");  
myHashMap.ADD(7,"Veli4");  
myHashMap.ADD(8,"Veli45");  
MyHashMap.MapIterator iter=myHashMap.iterator( key: 3);  
  
System.out.println("Next:"+iter.next());
```

Main ×
"C:\Program Files\Java\jdk-13.0.2\bin\java.exe" "-javaagent:C:\br/>Next:4=Veli1

Process finished with exit code 0

e) Takes the iterator before the current element

```
public class Main {
    public static void main(String[] args) {
        MyHashMap<Integer,String> myHashMap=new MyHashMap<>();
        myHashMap.ADD(10,"ferdi");
        myHashMap.ADD(20,"Osman");
        myHashMap.ADD(30,"Veli");
        myHashMap.ADD(40,"Veli1");
        myHashMap.ADD(50,"Veli2");
        myHashMap.ADD(60,"Veli3");
        myHashMap.ADD(70,"Veli4");
        myHashMap.ADD(80,"Veli45");
        MyHashMap.MapIterator iter=myHashMap.iterator( key: 80);
        System.out.println("iter-prev:"+iter.prev());
        System.out.println("iter-next:"+iter.next());
        iter.Print();
    }
}
```

Output:

```
"C:\Program Files\Java\jdk-13.0.2\bin\java.exe" "-javaagent:C:\Program Files\
iter-prev:30
iter-next:80=Veli45
50=Veli2
20=Osman
70=Veli4
40=Veli1
10=ferdi
60=Veli3
30=Veli
```