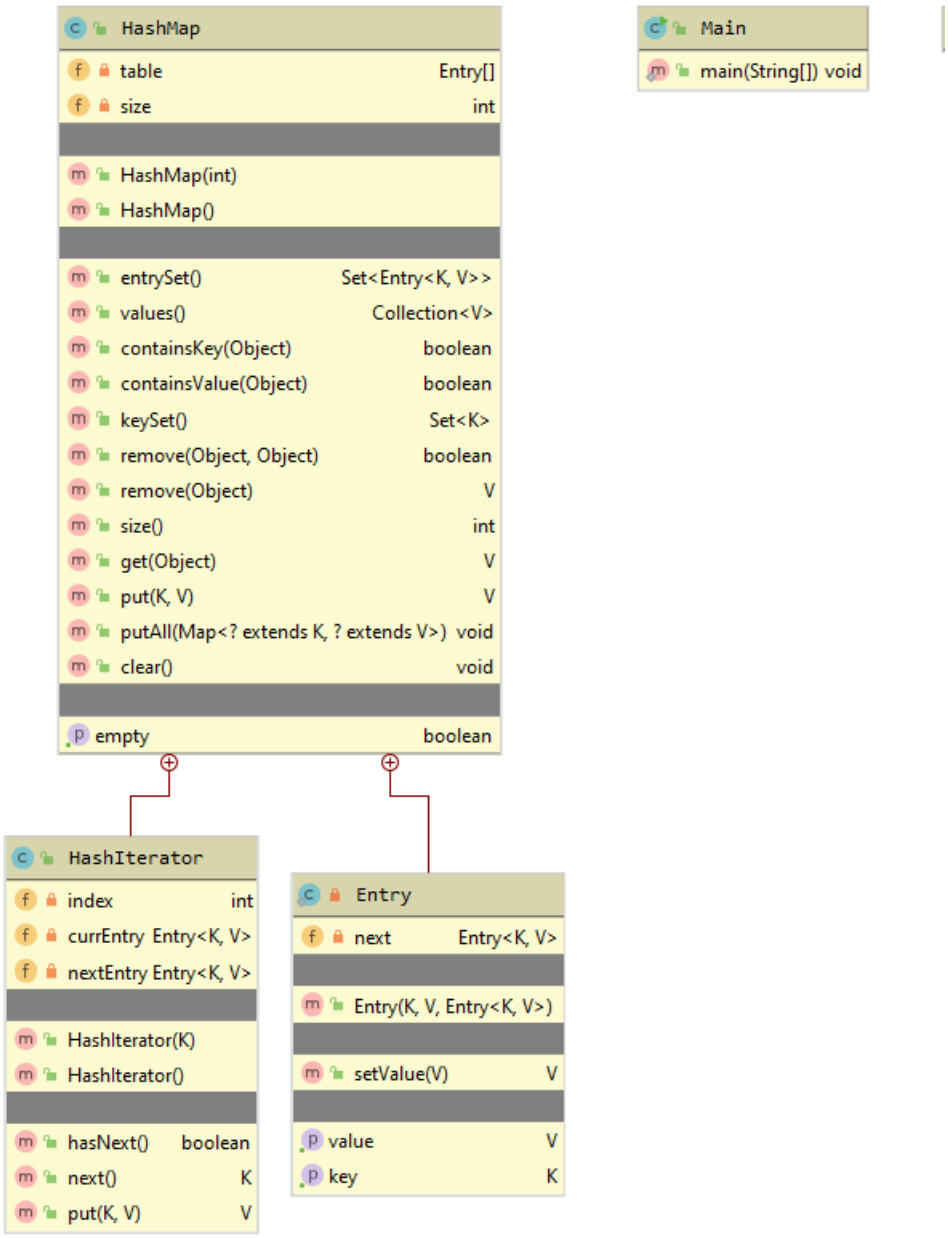
GIT Department of Computer Engineering
CSE 222/505 - Spring 2021
Homework 5 Report

part 1

Refik Orkun Arslan
151044063

CLASS DİAGRAM



HasMapIterator Functionality

```
public class HashIterator<E> {
    private int index;
    private Entry<K,V> currEntry;
    private Entry<K,V> nextEntry;

    // initialize the iterator to the first entry.
    public HashIterator(K key) {
        int flag=0;
        if(table==null)
        {
            for (index = 0 ; index < table.length; index++)
            {
                if( table[index].getKey()==key)
                {
                    currEntry = table[index];
                    nextEntry = table[index+1];
                    flag=1;
                    return;
                }
            }

        }


            index=0;
            currEntry = null;
            nextEntry = null;
            for ( ; index < table.length; index++)
                if (table[index] != null)
                    nextEntry = table[index];


    }
```

We can navigate using the currEntry and nextEnrty nodes.

With the parameter, you can go to the desired key and continue from there.

```
    public boolean hasNext() {
        if(nextEntry != null)
        {
            return true;
        }
        return false;
    }


    // the next() method has to be implemeted for the spe
    // T, by extending the abstract class, and making use
    // more generic nextEntry() method here below.

    public K next() {
        currEntry = nextEntry;
        if (nextEntry.next != null) {
            nextEntry = nextEntry.next;
        } else {
            nextEntry = null;
            index = (index + 1) % table.length;
            nextEntry = table[index];
        }

        return currEntry.getKey();
```

For traversal, implement methods

```
 */
public V put(K key, V value) {
    HashIterator a=new HashIterator(key);
    a.put(key,value);
    return  value;
}
```

In the hash map class put operation is called like this, in it the iterator returns and does the adding job.

Test Input/Output

```
public class Main {
    public static void main(String[] args)
    {
        HashMap hm=new HashMap();
        hm.put(1,2);
        hm.put(3,4);
        hm.put(5,6);
        hm.put(7,8);


        System.out.println(hm.get(1));
        System.out.println(hm.get(3));
        System.out.println(hm.get(5));
        System.out.println(hm.get(7));

    }
}
```

OUTPUT

```
2
4
6
8
```