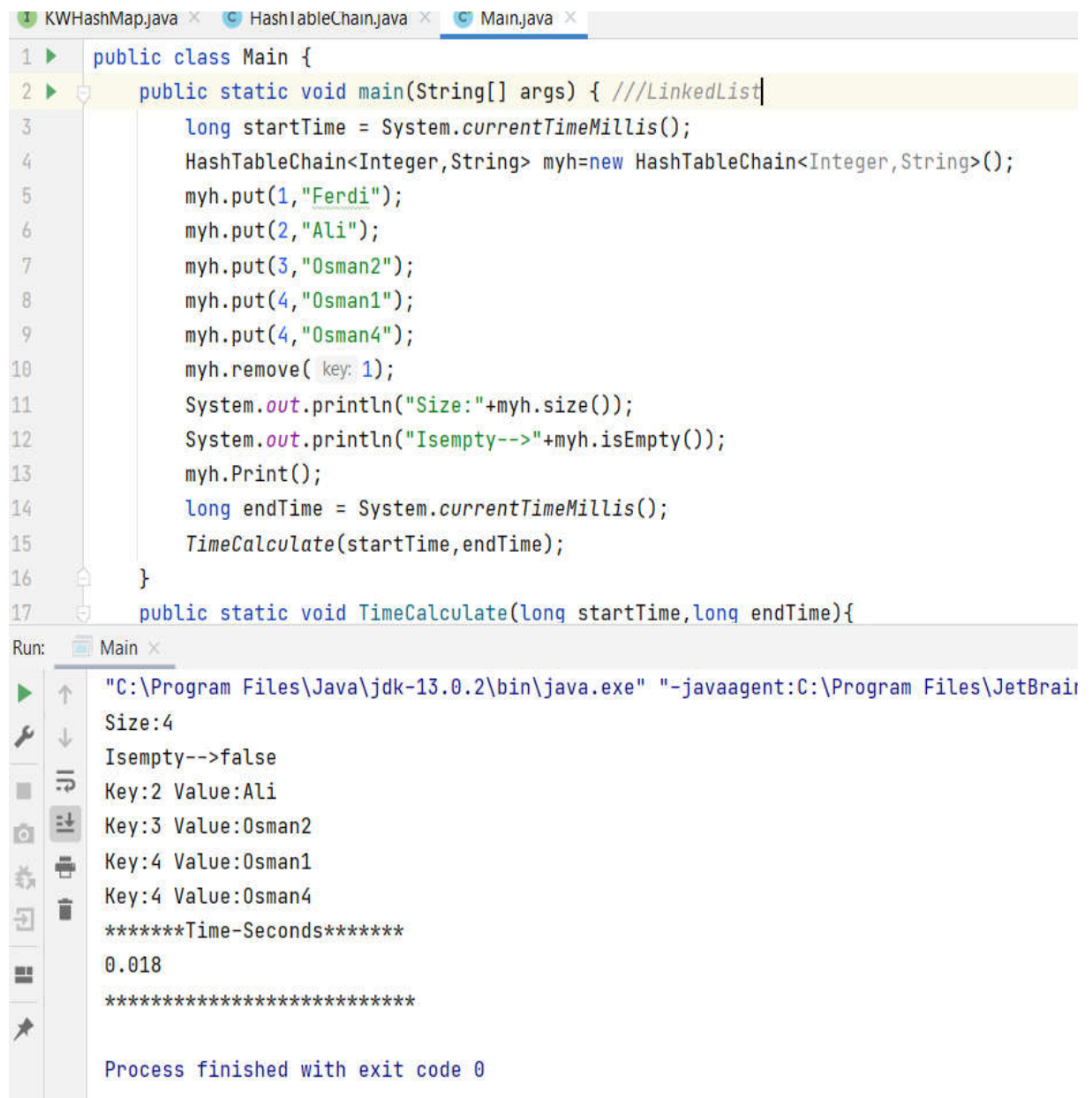


Although the same operations are performed, the structure with the Linklist structure is faster than the structure with treeset structure.

### 1) Hashing by using linked lists:

Time:0.018



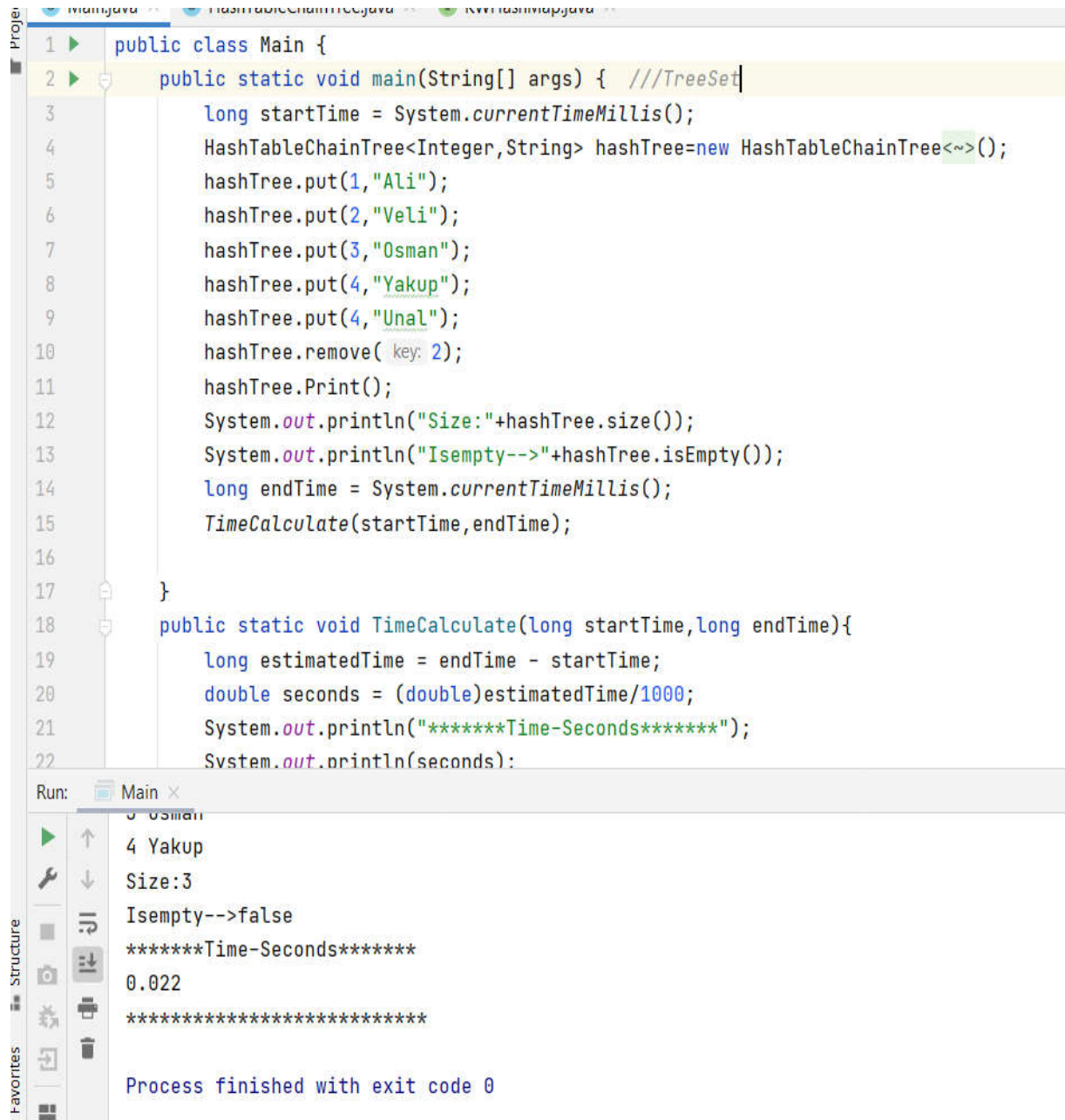
```
1 public class Main {
2     public static void main(String[] args) { ///LinkedList
3         long startTime = System.currentTimeMillis();
4         HashTableChain<Integer,String> myh=new HashTableChain<Integer,String>();
5         myh.put(1,"Ferd");
6         myh.put(2,"Ali");
7         myh.put(3,"Osman2");
8         myh.put(4,"Osman1");
9         myh.put(4,"Osman4");
10        myh.remove( key: 1);
11        System.out.println("Size:"+myh.size());
12        System.out.println("Iseempty-->" +myh.isEmpty());
13        myh.Print();
14        long endTime = System.currentTimeMillis();
15        TimeCalculate(startTime,endTime);
16    }
17    public static void TimeCalculate(long startTime,long endTime){
18
19    }
20 }
```

Run: Main

```
"C:\Program Files\Java\jdk-13.0.2\bin\java.exe" "-javaagent:C:\Program Files\JetBrain
Size:4
Iseempty-->false
Key:2 Value:Ali
Key:3 Value:Osman2
Key:4 Value:Osman1
Key:4 Value:Osman4
*****Time-Seconds*****
0.018
*****
Process finished with exit code 0
```

## 2) Hashing by using TreeSet:

Time:0.022



```
1 public class Main {
2     public static void main(String[] args) { ///TreeSet
3         long startTime = System.currentTimeMillis();
4         HashTableChainTree<Integer,String> hashTree=new HashTableChainTree<>();
5         hashTree.put(1,"Ali");
6         hashTree.put(2,"Veli");
7         hashTree.put(3,"Osman");
8         hashTree.put(4,"Yakup");
9         hashTree.put(4,"Unal");
10        hashTree.remove( key: 2);
11        hashTree.Print();
12        System.out.println("Size:"+hashTree.size());
13        System.out.println("Iseempty-->" +hashTree.isEmpty());
14        long endTime = System.currentTimeMillis();
15        TimeCalculate(startTime,endTime);
16    }
17    public static void TimeCalculate(long startTime,long endTime){
18        long estimatedTime = endTime - startTime;
19        double seconds = (double)estimatedTime/1000;
20        System.out.println("*****Time-Seconds*****");
21        System.out.println(seconds);
22    }
23 }
```

Run: Main x

4 Yakup

Size:3

Iseempty-->>false

\*\*\*\*\*Time-Seconds\*\*\*\*\*

0.022

\*\*\*\*\*

Process finished with exit code 0