

Homework 3

Finish programming the following Map implementation such that the map stores its key, value pairs as “MapEntry” objects in an underlying SeparateChainingHashTable, which is in the book and has been provided in the gitlab repository I have shared with you. Each of the following methods must be implemented, and well as tested (JUnit5) to receive full credit.

```
public class Map<KeyType,ValueType>{

    private SeparateChainingHashTable<MapEntry<KeyType,ValueType>> elements;

    public Map( )
    public void put( KeyType key, ValueType val )
    public ValueType get( KeyType key )
    public boolean isEmpty( )
    public void makeEmpty( )

    private static class MapEntry<KeyType,ValueType> (

    } // end class MapEntry

} // end class Map
```

Take special care to understand how the book’s implementation of the SeparateChainingHashTable works and how it actually determines where to put an element and use this to guide your design of MapEntry. What is relevant when placing the MapEntry into the Map? What is relevant when trying to retrieve it?

Upload your completed code and JUnit tester to your gitlab repository in a subfolder called “HW3”.