

Lab Goal : This lab was designed to teach you more about a linked list and how to use a linked list to create a data structure.

Lab Description : Write a program that uses nodes to store letters and letter counts. The data structure created for this program is similar to a Map. Each node will store a character, a count of how many of those characters have occurred, and a reference to the next node in the list. Each character with its count will occur at most once in the list.

HistoNode – stores a letter, the letter's count, and the next node

```
public class HistoNode
{
    private char letter;
    private int letterCount;
    private HistoNode next;

    public HistoNode(char let, int cnt, HistoNode n){
        letter=let;
        letterCount=cnt;
        next=n;
    }

    public char getLetter(){
        return letter;
    }

    public int getLetterCount(){
        return letterCount;
    }

    public void setLetter(char let){
        letter=let;
    }

    public void setLetterCount(int cnt){
        letterCount=cnt;
    }

    public void setNext(HistoNode n){
        next = n;
    }
}
```

Files Needed ::

HistoNode.java
HistoList.java
HistoListRunner.java

EXTENSION :

Add in a remove method that will remove a letter. If there is more than one of the letter, the count is decreased by one. If there is only 1 of the letter, then that node is removed.

Sample Data :

A A A A B V S E A S A A
 A B C
 A B C A B C A B C A B C A B C

Sample Output :

E - 1 S - 2 V - 1 B - 1 A - 7
 C - 1 B - 1 A - 1
 C - 5 B - 5 A - 5