

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

Sample Output :

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