Lab Goal :   The lab was designed to teach you more about hash tables.

Lab Description :   Write a hash table. A hash table can be implemented using an array of linked lists. Use an array of Java LinkedLists.

Read in Strings and use them to construct Word objects. Word objects will be organized in the hash table in the appropriate bucket using the hashCode value of each Word.

HASH FORMULA : (# of vowels * # of letters) % 10
   If the word is `BOOT` then, `BOOT` has a hash of `(2*4)%10 == 8`.

This hash table does not store duplicate values.

Sample Data :

```
20
one
two
dog
cat
chicken
pig
owl
jump
run
hop
shortcut
ferret
goat
hootowl
owl
go
alligator
onimonapia
food
a
```

Files Needed ::

```
Word.java
WordTester.java

HashTable.java – written as part of 16a
HashTableRunner.java
words.dat
```

EXTENSION :

Rewrite the HashTable class using an array of `ListNode` instead of an array of LinkedList.

//change the instance variable declaration
private ListNode[] table;

Sample Output :

```
HASHTABLE
bucket 0 onimonapia
bucket 1 hootowl a
bucket 2 ferret go
bucket 3 two dog cat pig owl run hop
bucket 4 chicken jump
bucket 5
bucket 6 one shortcut alligator
bucket 7
bucket 8 goat food
bucket 9
```