**What is the size of the table? Prove it?**

Modifying my parser code from previous assignments, I was able to conclude that there were 101 unique words in the given data set. The prime number that when used as the table size will give a table that is 80%-90% full is 113. A prime number is used to ensure that an even distribution is given by from the mod function used in the hash functions.

**What fields will the table need to represent?**

The table will need to represent the String (word), the number of occurrences in the table, and a flag for whether or nat the word has been deleted.

**Design a primary hash function which will distribute the keys (strings) as evenly as possible. Can you prove that the distribution adheres to the principles of good hash functions?**

The primary hash function I chose to use is simply the key mod the table size of 113. The integer key will be sufficiently large if a getInt function is defined as Sum((CharIndex+1)\*ASCIICharValue) that this should give a sufficient distribution of the keys.

**Design a secondary functions which will be used in the event of a collision. Show that this function will adequately produce the desired results.**

The secondary hash function i will use to produce the probe sequence will be (key+43)/43. This will give a good and mostly unique probe sequence to the keys to avoid coalescence given the use of the prime numbers 43 and the prime number 113 table size.