David Riedell

CSC316 Project #4 Report

Hash Table

I set up my hash table as an array that contains 31393 ArrayLists of type String. I chose 31393 because it was the closest prime to 25144 \* 1.25. So my bucket count was approximately 1.25 times as large as my dictionary size.

Hash function

My hash function received a String, added padding to ensure that it was at least 8 characters long, and then converted the String into a CharArray. I then bitshifted each of the first 8 chars of the array in a polynomial manner and added them together to create a long. My hash index was the absolute value of the long modulo the bucket count of 31393. The absolute value was necessary because occasionally the long would be a negative number.

Collision resolution method

Since each of my buckets contained an ArrayList of type String, if I had a collision I simply added the new String to the end of the ArrayList in the bucket at the same index.

Filtering parameters

I didn’t add any additional filtering to attempt to parse more words into a dictionary-friendly term. I just used the rules provided in the project description.