Assignment 6 – Hash Table Concordance

1. The words “eat” and “tea” would give the same hash for stringHash1() but not for stringHash2().
2. The reason stringHash2() is superior to stringHash1() because it takes position of the letter into account when folding the values to create a hash. This decreases the likelihood of a collision.
3. No, the size() function would not return different values, since the size is set when you enter new values into the hashMap, which wouldn’t change since they are matched by keys.
4. Yes, the tableLoad() function could return different values since you are more likely to have more unique hashes and could cause the table to need resizing using stringHash2().
5. Yes, it is possible that emptyBuckets() could return a different value for stringHash2() since it might utilize more buckets than stringHash1().
6. Yes, there is a difference in empty buckets when using a prime number of buckets, since the numbers would cluster when using rounded numbers rather than primes and allow for a more even distribution.
7. As you reduced the hash table size, it would result in it taking longer. This is likely due to it having to resize a lot when adding values.