

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.