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CS 261 Assignment 6

1) Ate and eat are examples of where the stringHash1() will have the same value while stringHash2() won't.
2) StringHash2() is superior to stringHash1() because it adds shifting into the equation. This helps get rid of high and/or low order bits that aren't random.
3) If the same file is used, the size should not change. The stringHash functions are to avoid collisions of the hashes. This should not change the size.
4) The table load is dependent on the size and capacity of the table. If the file doesn't change then it shouldn't change. The number of empty buckets might vary though.
5) Yes. The two functions may produce words that have the same hash, causing collisions to happen. This can cause words to be in the same bucket either resulting in more empty buckets or less empty buckets (if there fewer collisions).
6) Odd table size helps avoid clustering. Clustering might cause two or more keys to be in consecutive slots, which could increase the number of empty buckets.
7) The time is constant. After changing the sizes, the time didn't change.