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Assignment 6

**How does the number of Bloom filter bits examined per miss vary (for the same input) as the Bloom filter varies in size?**

The number of bits examined varies by a small margin.

This table shows with the default size.

| 1 word | 10 words | 50 words | 100 words | 500 words |
|---|---|---|---|---|
| 1.0 | 1.034483 | 1.039501 | 1.035197 | 1.035917 |

With Bloom filter of 3333.

| 1 word | 10 words | 50 words | 100 words | 500 words |
|---|---|---|---|---|
| 1.0 | 1.03583 | 1.03363 | 1.03473 | 1.03883 |

**How does changing the Bloom filter size affect the number of lookups performed in the hash table? This is related to the false positive rate of the Bloom filter; we discussed this in the lecture that discussed Bloom filters.**

The larger filter sizes have less number of lookups performed in the hash table because they have a lower chance of false positives.

**How does the number of links followed without the move-to-front rule compare to the number followed with the move-to-front rule?**

**How does the number of links examined vary as the size of the hash table varies? What does this say about setting the size of the hash table when using a chained hash table?**

https://www.geeksforgeeks.org/arrow-operator-in-c-c-with-examples/#
I used this link to help me understand structures and using the arrow operator.

https://www.geeksforgeeks.org/strdup-strdndup-functions-c/
I used this link to help me conceptually understand `strdup()`, which, like the assignment told us to do, I did not use.

https://www.geeksforgeeks.org/tolower-function-in-c/
I used this link to help me understand `tolower()`.

https://www.geeksforgeeks.org/isalnum-function-c-language/
I used this link to help me understand `isalnum()`.

https://www.scaler.com/topics/c/assignment-operators-in-c/
I used this link to better my coding and learned that there were bitwise assignment operators.