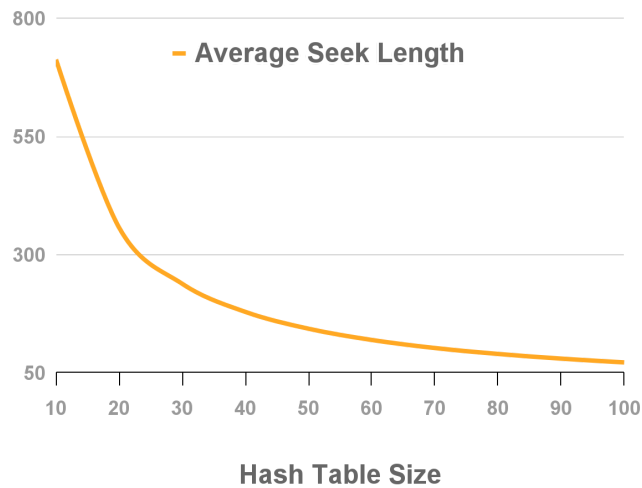# Writeup
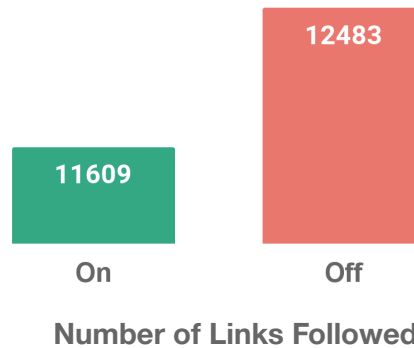**Assignment 7**

Graphs & Analysis
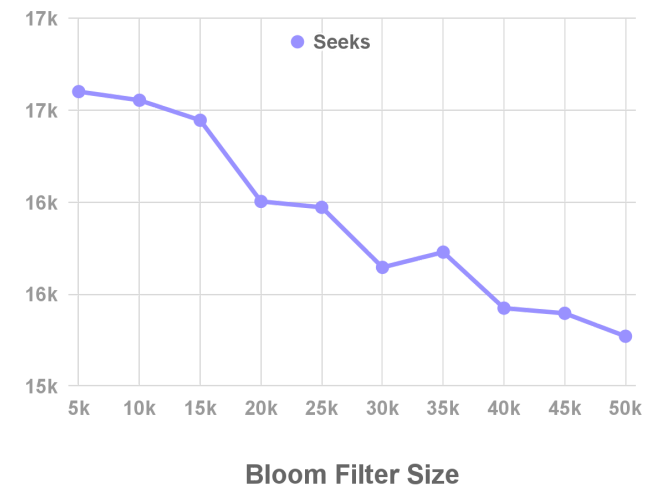
(All data gathered by performing tests on `calgary/paper4` and using default setting unless specified.)

Hash Table Size

Number of Links Followed

Bloom Filter Size

The average seek length and the length of the linked lists decrease as the hash table size increases. In other words, **the linked lists get longer** when the hash table size is decreased. This is because a smaller hash table size result in more collisions, so the nodes get crammed together into very long linked lists.

Enabling move-to-front drastically *reduces* the number of links followed, thereby also reducing the average seek length. This is because move-to-front will make more-commonly searched words more accessible but moving them to the front of the linked list. This has the effect of not having to search as far on average.

Increasing the Bloom filter size *decreases* the number of lookups performed on the hash table on average. This is because the larger the Bloom filter, the more accurate the Bloom filter can be. The larger the Bloom filter, the less false positives it will return. A larger Bloom filter means less unnecessary lookups (seeks).