Assignment 6
Writeup Discussion

- What happens when you vary the size of a hash table?

  The hash table load increases substantially. This is because you are decreasing the indexes in the table which increases the probability for hash collisions. More and more words are likely to hash to the same index. Because of these collisions, the average linked list length also increases and so does the seek length because to be safe from collisions more elements get added in each index and forces you to look through more nodes to find the node you are looking for.

- What happens when you vary the Bloom filter size?

  The bloom filter load increases which causes there to be more false positives which in turn causes more time to finish the program as more lookups are called.

- Do you really need the move to front rule?

  Well you do not *need* the move to front rule but it helps optimize things. If you are searching for the same word over and over again, the move to front rule will reduce the time to look up that word in the hash table which can help improve the time complexity but this also depends on whether you have to search one or words constantly in the hash table. For example, suppose you have a linked list Link1: a->b->c->d. Now if you go to look for node d in the list, the move to front will change the list to d->a->b->c. In this changed form, searching for node d is easy since it's the first node. But in the list's original form, looking for d will make you transverse through a then b then c and then d, this increases the time it takes to find node d.