**PEX 3 – Hash Tables – Analysis of my hash functions**

Hash function A:

Hash Function's name: wordHashFunctionA

Size of hash table array: 178691

Number of collisions: 26

Number of used array slots: 26

Number of un-used array slots: 262118

Average size of the linked lists when collisions happened: 6872.731

Overall assessment: A pretty bad hash function, keys based entirely on first letter. Good for making lists of words starting with the same letter.

Hash function B:

Hash Function's name: wordHashFunctionB

Size of hash table array: 178691

Number of collisions: 40864

Number of used array slots: 123677

Number of un-used array slots: 138467

Average size of the linked lists when collisions happened: 1.445

Overall assessment: A pretty solid hash function, keys using bitwise operators and lots of summation to get wider range of values. Not perfect, but average bucket size is very low.

Hash function C:

Hash Function's name: wordHashFunctionC

Size of hash table array: 178691

Number of collisions: 1053

Number of used array slots: 1091

Number of un-used array slots: 261053

Average size of the linked lists when collisions happened: 163.786

Overall assessment: A pretty meh hash function, keys using less effective bitwise operators and arithmetic. Better than just using the first letter of each word, but pretty bad with so many words keying to the same index, making for some rather large buckets.