CSPC 319 Questions:

1. My Hash function weighs the first characters of the string more heavily in value, and decreases in “weight” as it reads down the key. While it does this, the previous values will be stored and multiplied onto it. The returned value will be kept within the table size by using modulus (%).
2. I could play around with the hash function more to improve it. Also, using chaining or other methods might be better than linear probing
3. An ideal/perfect hash function would never have any collisions, while mine has (in the case of the example input) 4029 collisions when entering 11344 keys. 30% collision rate.
4. My function would still deal with them the same way. But in theory, this should lower the performance of the hash function as this is limiting the number of character variety to 10(digits 0-9) rather than all ascii characters.

**Console Output:**

ReadFile: Done reading File, Done Inserting into Table

SearchFile: Done Searching File

WriteFile: Done Writing to File

**OutputFile:**

Byron's CPSC Assignment 3 HashTable Information

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Size of Table: 16205

Num of Words: 11344

Num of steps: 24445

Number of Collisions: 4029

Largest step: 75

LoadFactor: 70.00308546744833

AverageRead/Steps: 2.1548836389280677

Hash Efficiency: 32.48578447710099

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