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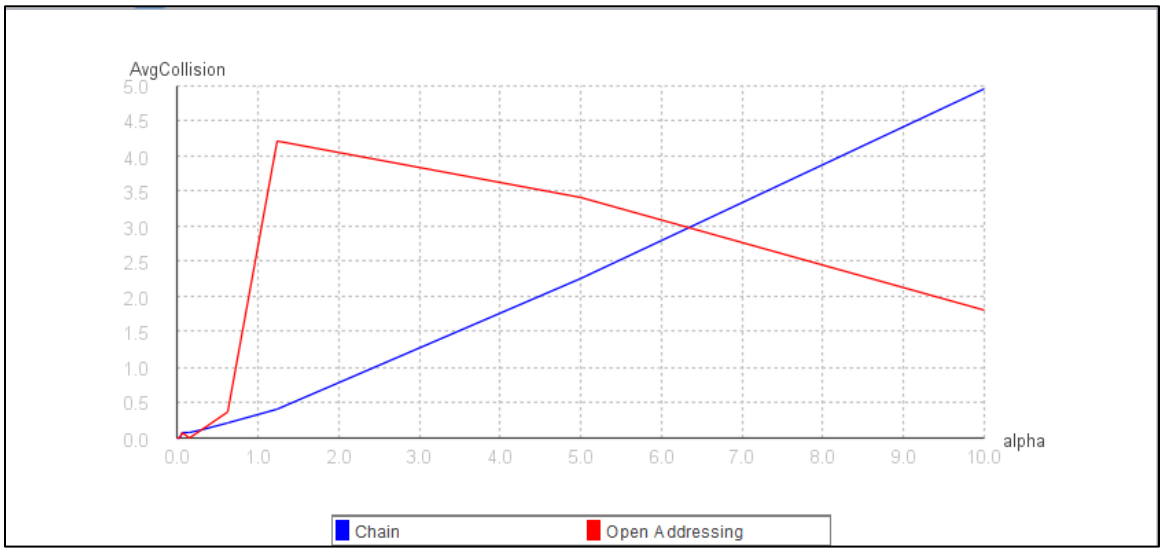
Comp 251: Assignment 1

Task 3



For chaining

We can see that the average number of collisions decreases linearly as the value of w increases and the value of alpha decreases.

At the beginning, when w is small, and alpha is big, the hash table is small. So collisions happen often. As the w increases and the alpha decreases, the hash table get bigger and bigger, so the collisions are rarer. (Since the number of key inserted n is constant throughout the experiment).

For open Addressing

We can see that the average number of collisions increases and then suddenly decreases at around alpha=1.

At the beginning, when w is small, and alpha is big, the hash table is small so the number of possible collisions is quite small (since ***i*** is limited by m the number of slots in the hash table). As w increases and alpha get smaller, the number of possible collisions increases (***i*** increases since m increases).

At some point (closer to 1), the table is so big that there is a lot of space so there is a lot less colision

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