Nathalie Raffray
260682940
COMP 251

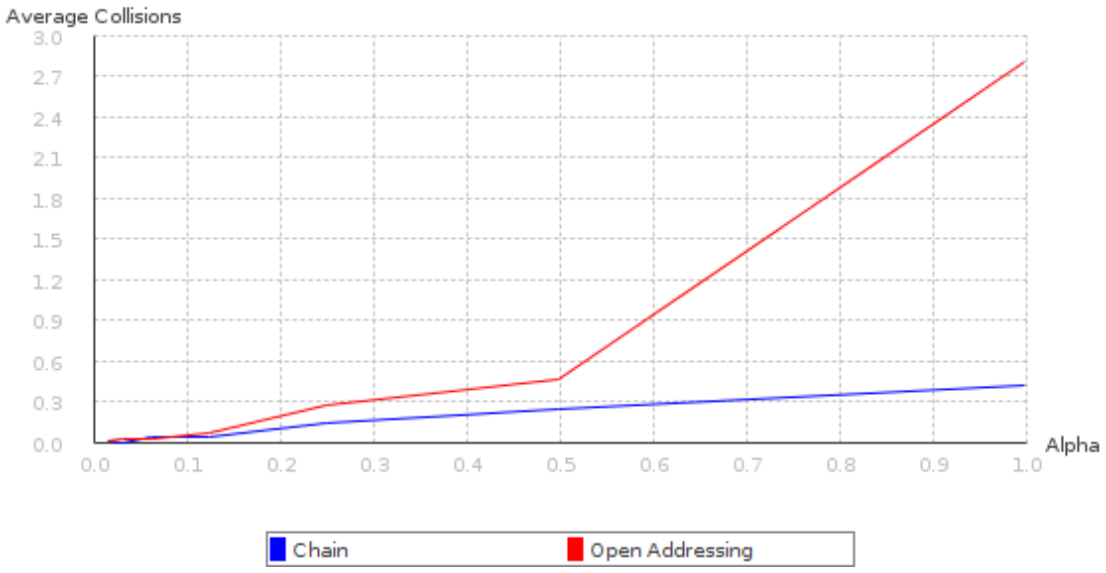

Figure 1:
n = 32
w = {all positive values from 10-24}

I tested as many values of w as I could before reaching integer overflow. The reason for testing only positive values of w is because testing positive and negative values would lead to redundant results because of the way integer division works. R would be the same for w=10, and w=11, for example.

I noticed that as alpha increases we notice an increase in average collisions per insertion as well. Alternatively, we know that when we increase w, and hence increase the number of slots in our hash table, the collisions will decrease. As alpha increases, we can see that collisions for chaining and open addressing are similar until alpha = ~0.15 (this value will defer slightly depending on what n you use), at which point the collisions for open addressing increase in comparison to chaining.