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CSE 373

Write-Up Questions #3

1. “kiss the blue planet ourselves is gratification upon devise telex and cheat joy mid instructions structures”
2. a. I set the starting capacity 5. I initially thought that I would need the table size to be a prime number; however, because my code resolved collision through separate chaining, the actually number of the size does not matter much.

b. Because the collision is resolved through separate chaining, unlike other methods like linear probing, the load factor can get high as 1 before becoming inefficient.

c. The new size of the array should be more than 2 times the current size because the amortized runtime of this process will be O(1), compared to longer runtime with less than 2 times. Larger factors will be a bit excessive, and unnecessary.

1. I used String’s hashcode method and modded it by the current table size to insert it in that index. I thought this would be effective because the String’s hashcode is calculated by looking at each character of the string and do some math to calculate each value and summing them. WordInfo’s hashcode just uses the String’s hashcode, but multiplies it by 31. This may help with clustering, but it is largely unnecessary.
2. If we were to do quadratic probing, I would have to change the load factor limit and the size of the array. I would limit the load factor to ½, and change the length of the array to prime numbers. This is important because if the table size is a prime number and the load factor is less than ½, the quadratic probing will at most take Size/2 probes.