Assn 3 Test Description/Analysis

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| --- | --- |
| Input | Output |
| What is the hash size of your table?: 6791 |  |
| What is the hash size of your table?: 20000 |  |
| What is the hash size of your table?: 14753 |  |
| What is the hash size of your table?: 6650 |  |

Analysis:

Depending on the load factor, the numbers varied from test to test. We saw that the greater the load factor the more that the tests started to even out. This can be seen in the final picture above with a hash size of 20,000. For the most accurate reading, it was best to use prime numbers. However, at times the theoretically faster test ended up being the slower test, examining more items than should be expected. Besides the load factor influencing average, best, and worst case times, we saw that quadratic probing and double hashing were close in comparison. I believe this is in part due to our double hashing method not meeting theoretical standards. I feel that a better method could have been implemented to improve accuracy, something that should be considered on future tests. To further note, we decided to use optimal tests for comparisons which is why we avoided linear probing. As you can see from the results above our tests matched industry standards with chaining representing the best in all scenarios followed by double hashing and then quadratic probing.