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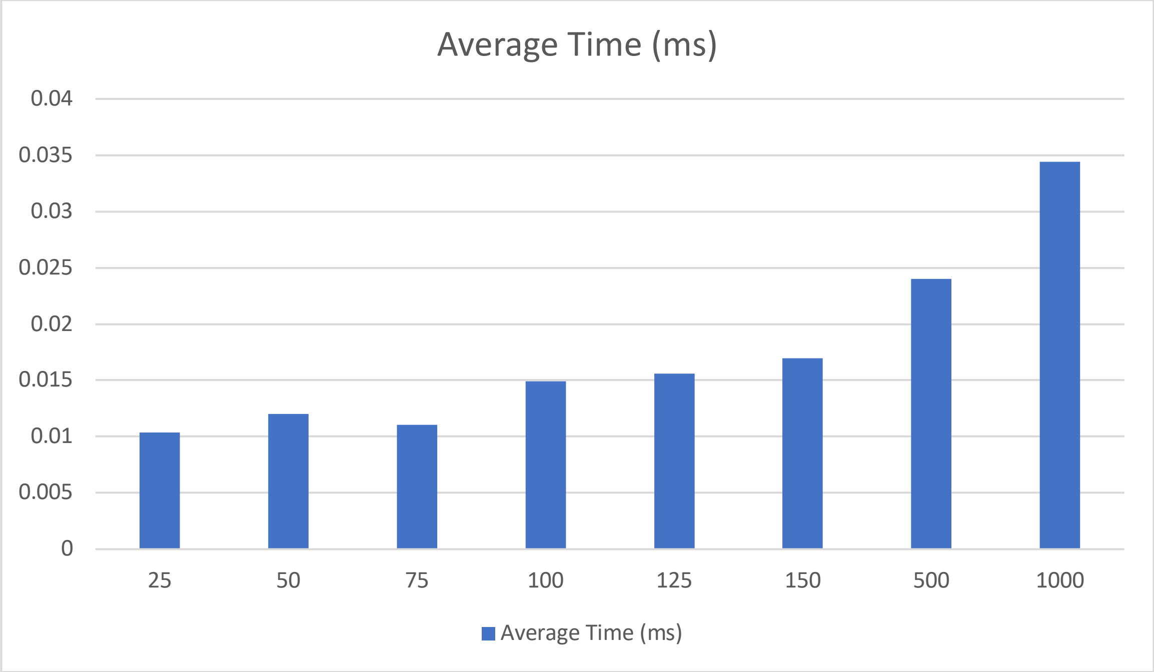
N	Average Time (ms)
25	0.01038919
50	0.01203104
75	0.01102319
100	0.01493556
125	0.01562376
150	0.01698913
500	0.02399903
1000	0.03438945

The running times for experiment_interpret() are shown above in miliseconds.



As the load factor increases we notice a trend that shows the time taken to insert into the bucket of a hash map increases as well. This is because, as the number of entires (x) exceeds the capacity of the hashtable (n) collisions occur on every possible entry. There is no longer an empty bucket in the hash table.

As a result of this, on each entry – the bucket has to be checked to see if the key already exists in it. If the key exists then simply replace the value. If not then add the value into the bucket. The main reason for the increase in time is due to this checking. Checking to see if a value is in a bucket (ArrayList). Searching through an ArrayList sequentially can be an O(n) operation. Thus causing the inefficiency in the hash table.