

## Jonathan Barkley – Assignment 7?

### 2. Average time to function for each array

10	20	30	40	50	100	500	1000
0.000295 42	0.00195 91	0.00148 39	0.0050208 22	0.009103 16	0.0328505	1.2917452	8.56857

3. The problem with the algorithm is how it nests for loops within each other multiple times which makes it run each iteration over and over again each time, my best guess four nested loops would be  $n^4$  which would take considerable amount of time to to complete with on a 1000-character array. The algorithm is looking for duplicates in the randomly generated integers in the array. I set the function to stop when it hits one so they wouldn't run for hours on the bigger arrays.