**CZ2101 Project 1**

1a) On an **array of Size 1000**, with different input types

A picture containing chart

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Upon observation, the number of key comparisons does not appear to increase drastically as the threshold S increases from 15 – 30. This is further backed by the time taken for completion of HybridSort as S ranges from 0 to 30. Hence, taking our optimal value for S to be the highest value in the range provided (S = 30), we can run this on different input list size to visualize the result.

Passing in arrays of different sizes from 10 to 5000 in increments of 10, the following results were obtained.

Chart, line chart

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1b) Running with the optimal value S=30 we chose.

Chart, line chart

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On a random array, the HybridSort Algorithm is almost faster as the array size increases. However, the number of comparison is also higher. This is likely due to the Insertion Sort portion