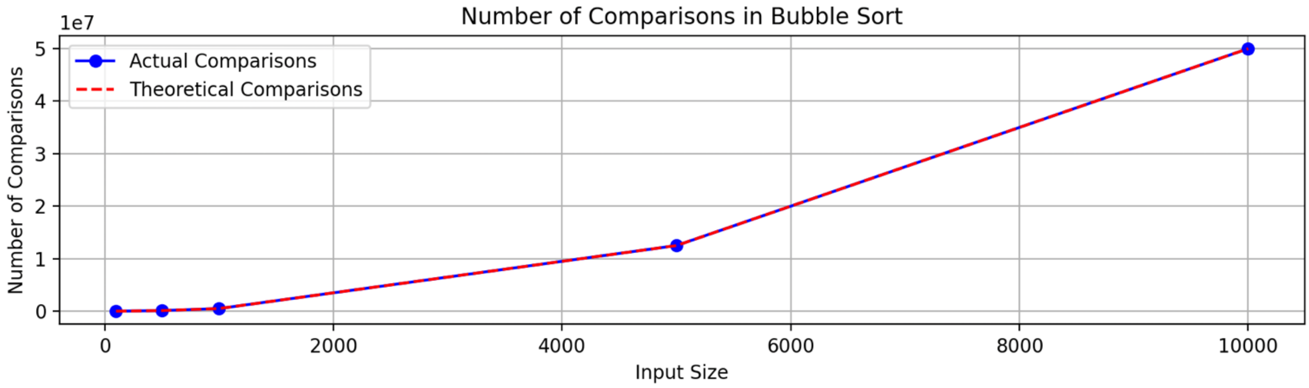
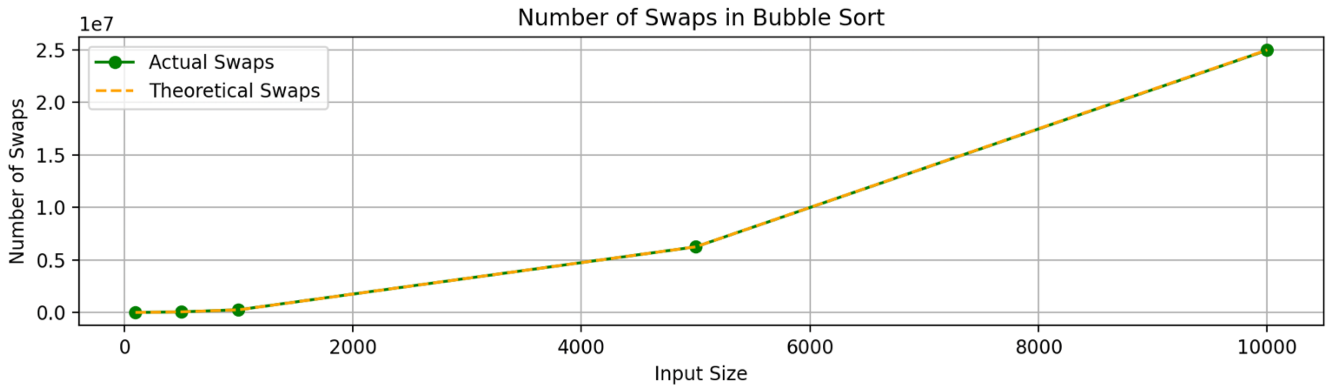
1. Formulas for average case number of comparisons and swaps:

   i. Comparisons: n * (n – 1) / 2
   On the first iteration, while trying to place the biggest element, there has to be n-1 comparisons done. Then, on the second iteration, there is no need to compare the values against the last element of the list since it was swapped following the previous comparison. Therefore, the total number of comparisons is (n-1) + (n-2) + (n-3) + … + 2 + 1 = n * (n – 1) / 2.

   ii. Swaps: n * (n – 1) / 4
   Since for each pair of elements, the probability of a swap is ½, the expected number pf swaps in a list of n elements is n * (n – 1) / 2 multiplied by ½, which is n * (n – 1) / 4.

4.





These results match the complexity analysis since the curves for the actual comparisons and actual swaps match those of the theoretical comparison and theoretical swaps, respectively.