

Question 1.

- (i) the number of comparisons are always $n*(n-1)/2$, regardless of input order.
- (ii) This should typically be an Average-case number of swaps $(n*(n-1)/4)$ for a randomly ordered input.

Question 4.

The number of comparisons matches the theoretical formula $(n(n-1)/2)$ for all input sizes. It shows that the bubble sort always does the same amount of comparisons despite the input order. However the swap counts are close but not identical to the theoretical predictions.

The statistical version was the most accurate to an average case because we used a randomly filled array.