Time Complexity

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* Worst case

↳ In this case key has to be compared with every element ie $(i-1)$ elements so by adding all comparisons.

$$\sum_{0}^{n} (i-1) = \frac{n(n+1)}{2} - n$$

$$\approx O(n^2)$$

* Best case

↳ It is when the array is already sorted

ie $\approx O(n)$ is time complexity

Optimization

↳ Time complexity can be reduced by introducing an if statement to inner loop (but still T.C. $\approx O(n^2)$)