

TLE thresholds (assuming 1 second time limit):

$O(n)$ algorithms:

- Usually safe up to $n = 10^7$ to 10^8
- Example: Linear search, array traversal

$O(n \log n)$ algorithms:

- Usually safe up to $n = 10^6$
- Example: Sorting algorithms like merge sort, binary search in a loop

$O(n^2)$ algorithms:

- Usually safe up to $n = 10^4$
- Example: Nested loops, bubble sort

$O(n^3)$ algorithms:

- Usually safe up to $n = 300$
- Example: Triple nested loops

$O(2^n)$ algorithms:

- Usually safe up to $n = 20-25$
- Example: Recursive Fibonacci without memoization

$O(n!)$ algorithms:

- Usually safe up to $n = 11$
- Example: Generating all permutations