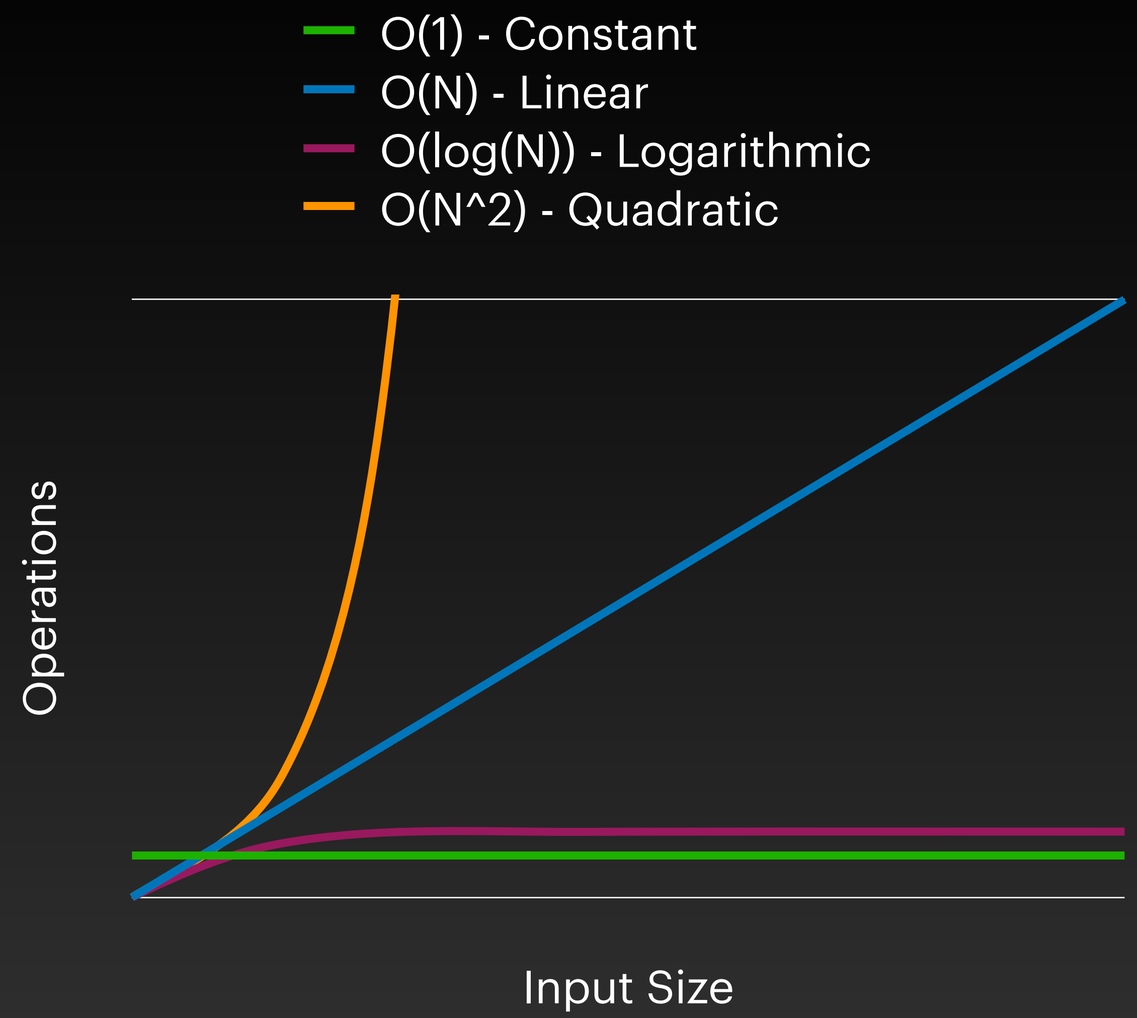
$O(N^2)$

The big idea:

For each time the input grows the processing time required by the algorithm will grow exponentially. N represents the size of the input.

$O(N^2)$ is inefficient and should be avoided if possible.



$O(N^2)$ - Quadratic Complexity

Examples:

- Many sorting algorithms have quadratic complexity (quicksort, bubble sort, insertion sort, etc.)
- Performing an action on every item in a 2D array
- Searching in a 2D array
- Nested loops.