

1. Complexity Theory: Judge by Time & Space. $10^8 / 10^9$ Operations per second, $O(1)$, $O(n)$, $O(\log n)$, $O(\sqrt{n})$, $O(n^2)$, $O(2^n)$

2. Complexity Part 1 :

$$I \leq n * n = O(n^2)$$

$$i * i \leq n = O(\sqrt{n})$$

3. Complexity Part 2 : if we don't know which part is dominating the complexity in that case the Complexity will be $= O(n+q)$

If there is any nested loop, we will start counting complexity from the nested segment.

4. ComplexityPart 3: Sieve Loop's Complexity

$$[\text{Harmonic Series}] = O(n * \ln n) / O(n * \log n)$$

[Fibonacci Series](Exponential) = count the called number of fib function

So, the Complexity will be $O(2^n)$