Topics to discuss

- Leetcode Problem
- Time Limit Exceeded (TLE)
- How to avoid or overcome TLE.
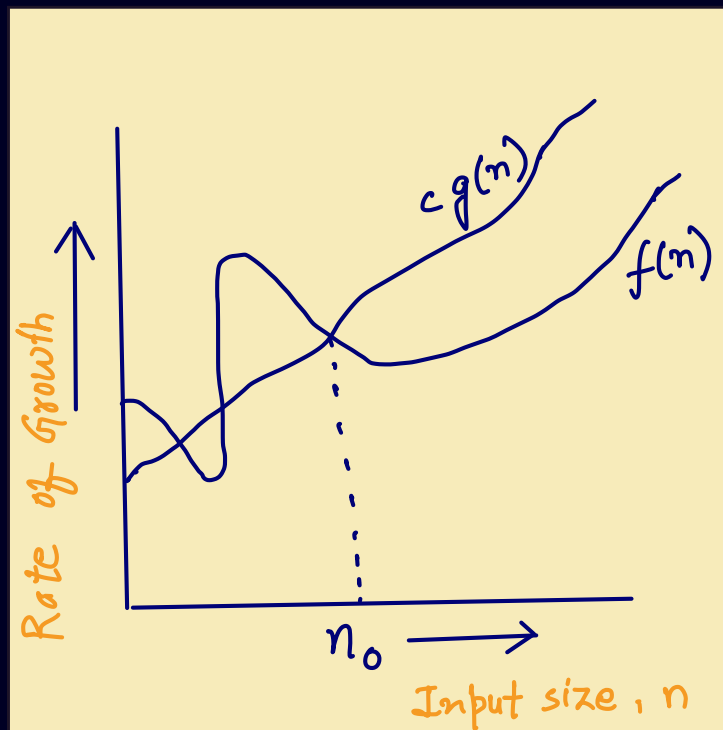
Time Limit Exceed

Time Limit exceeded is an error message that indicates that code took too long time to run within the constraints of the problem.
It means, algorithm needs to be optimized to run more effeciently within the given time limits.

How to overcome or Avoid TLE ?

step 1 : Analyze input constraints

step 2 : Follow 10^8 Operations Rule.

$$f(n) \leq c \cdot g(n)$$

Following are allowed Time Complexity for the given Input constraints.

Input Size	Worst Time Complexity
10^{18}	$O(1), O(\log n)$
10^{8}	$O(n)$
10^{6}	$O(n \log n)$
10^{3}	$O(n^2)$
2000	$O(n^2 \log n)$
400	$O(n^3)$
100	$O(n^4)$
18 - 22	$O(2^n \times N)$
15 - 18	$O(2^n \times N^2)$
10 - 11	$O(n!), O(n^6)$

#DSAWithArfin