

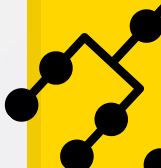
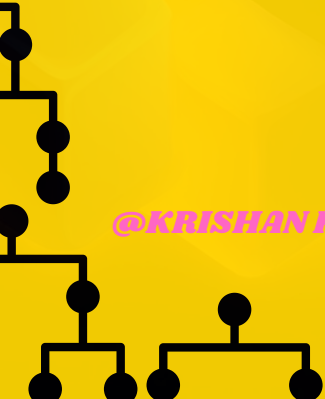


Data Structure & Algorithm

Time Complexity & Space Complexity

< SWIPE >

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Types of time complexity

- Best case
- Average case
- Worst case

↳ Let's understand the best case, Average case and worst case using a small example. ↴

Suppose you have to find Rahul in the class.




Best case → if you find Rahul in first try that will be my Best case.

Worst case → if you find Rahul at the last try that will be our worst case.

← When we have dealing with computer
↓
prepare for the
↓
worst Case

Because when we prepare for the worst we already cover for the Best or Average Case.

↳  → talking about
computer → means
↓
 $T(c) \Rightarrow$ Worst case time complexity.
OR
also called → Big O

* Space Complexity *

The extra space that you need to solve the problem respect to the input size.

ex → I have a list = [1, 2, 3, 4, 5], Please reverse list?

Ans → list = [1, 2, 3, 4, 5]

New list = [5, 4, 3, 2, 1]

for reversing I am take new list that it the extra space that I used to solving the problem statement.

↳ Now more people aware about Time complexity
Not for the Space complexity.

In any algorithm

if we are using
space to solving
problem



that will be in
space complexity
problem.

No. Extra space



Called → Constant Space
complexity

OR

Inplace algorithm

These types of algorithm is
Really Good algorithm.