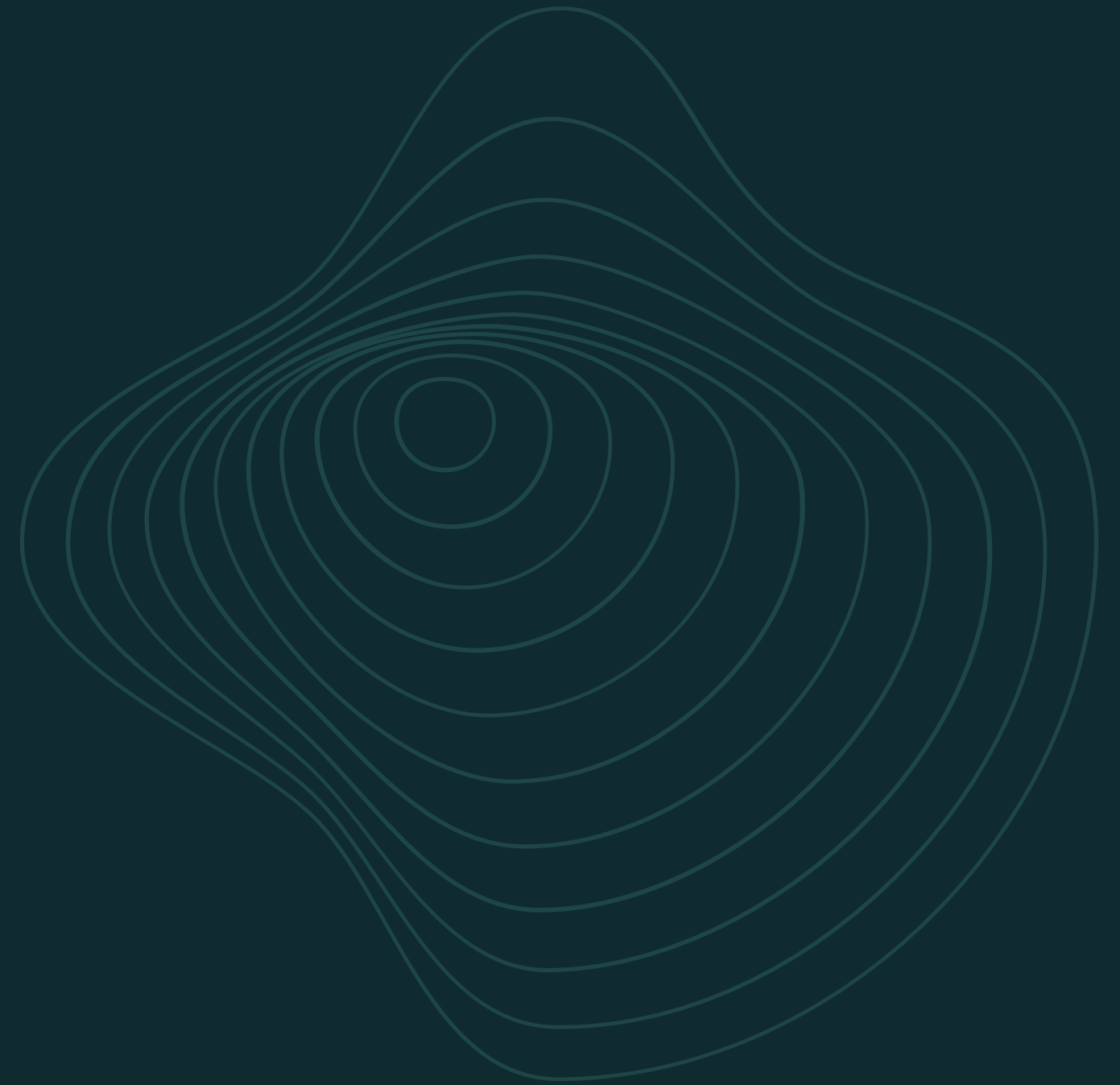


# DSA Preparation Guide

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# My 6 months Preparation Plan

Searching  
**1 week**

Sliding Window Technique  
**1 week**

Hashing  
**1 week**

Recursion  
**1 week**

Sorting  
**1 week**

Strings  
**2 weeks**

Matrix  
**1 week**

Linked List  
**2 weeks**

Stack  
**1 week**

Queue  
**1 week**

Trees(BT, BST, HEAP, BBT)  
**1 month**

Graph + Disjoint Set  
**3 weeks**

Backtracking  
**1 week**

Dynamic Programming  
**1 month**

Trie  
**1 week**



Why having a  
preparation plan  
is important ?

## BFS

## DFS

## Random

### What it is?

Solve few questions from one topic and move to other

Focus on one topic at a time and solve questions in depth

Solve random problems from any topic

### When to use?

Having 1-2 months of preparation time

Having 3-6 months of preparation time

Having 1-3 weeks of preparation time

### Who can use?

Intermediate to Advance

Beginner to Intermediate

Advance

### Benefit

Problems are related to each other. Help in pattern identification

Problems are related to each other. Help in pattern identification

Every problem you do is new. Difficult to identify patterns as a beginner. Helpful in gaining confidence.



Which platform should I use  
to **practice** problems?

# LeetCode

User Friendly Interface

Quality Test Cases

Most Companies ask questions  
from LeetCode

# GFG

Mostly asked Standard  
problems/concepts are covered


Segregate problems based on company tags

Better segregation of problems based on topic name



How to pick problems on  
coding platforms ?



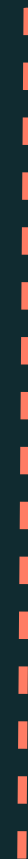


DSA is all about  
pattern identification

PATTERN - 1 → Problem-1, Problem-2, Problem3\_\_\_\_\_Problem-n

PATTERN - 2 → Problem-1, Problem-2, Problem3\_\_\_\_\_Problem-n

PATTERN - N → Problem-1, Problem-2, Problem3\_\_\_\_\_Problem-n



# Binary Tree Problem Distribution

Depth First Traversal



Mirror tree, Preorder, Inorder, Postorder, K distance from root, Root to leaf path sum, Add greater values to every node, LCA, Depth of BT

Views/Sum  
/Traversals  
of BT



Left View, Right view, Diagonal sum/traversal, Vertical sum/traversal, Bottom view, Top View, Zig Zag traversal, Boundary traversal

Level Order traversal



Max level sum, Max node level, Maximum width,  
Connect nodes at same level, Level order traversal line by line

Generate Tree from  
Given Traversals



Postorder from inorder & preorder, Preorder to Postorder,  
Construct tree from preorder, Tree from postorder & inorder,  
Construct tree from inorder & preorder

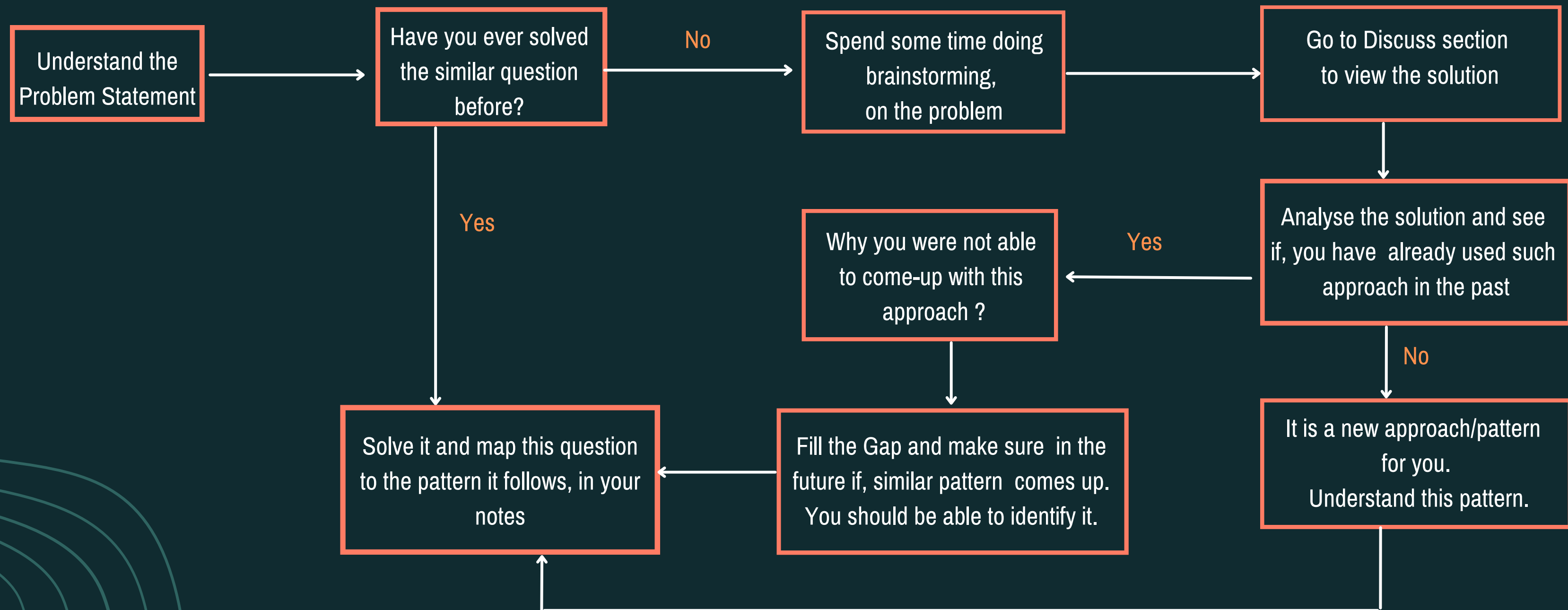
DP on Trees




Check for balanced trees, Diameter of BT, Max path sum b/w two leaf nodes, Burning Tree, Single valued subtree, Largest BST,  
Max path sum from any node

Quality > Quantity

# How to approach a coding problem ?



# Revising the concepts



How to assure you are  
enough prepared to  
**crack interviews ?**

# Best **Practices** to follow during preparation

- Brute Force First
- Peer Programming
- Use White Boards
- Time & Space Complexity Analysis
- Mock interviews



# Some Useful Resources to understand DSA concepts

**Time & Space Complexity Analysis** -> [https://www.youtube.com/watch?v=V42FBiohc6c&list=PL2\\_aWCzGMAwI9HK8YPVBjElbLbI3ufctn](https://www.youtube.com/watch?v=V42FBiohc6c&list=PL2_aWCzGMAwI9HK8YPVBjElbLbI3ufctn)

**Basic Concepts of all DS** -> [https://youtube.com/playlist?list=PL2\\_aWCzGMAwI3W\\_JlcBbtYTwIQSsOTa6P](https://youtube.com/playlist?list=PL2_aWCzGMAwI3W_JlcBbtYTwIQSsOTa6P)

**Sorting Algos** -> [https://youtube.com/playlist?list=PL2\\_aWCzGMAwKedT2KfDMB9YA5DgASZb3U](https://youtube.com/playlist?list=PL2_aWCzGMAwKedT2KfDMB9YA5DgASZb3U)

**DP** -> [https://www.youtube.com/watch?v=nqowUJzG-iM&list=PL\\_z\\_8CaSLPWekqhdCPmFohncHwz8TY2Go](https://www.youtube.com/watch?v=nqowUJzG-iM&list=PL_z_8CaSLPWekqhdCPmFohncHwz8TY2Go)

**Recursion** -> [https://youtube.com/playlist?list=PL\\_z\\_8CaSLPWeT1ffjIlmo0sYTcnLzo-wY](https://youtube.com/playlist?list=PL_z_8CaSLPWeT1ffjIlmo0sYTcnLzo-wY)

**Binary Search** -> [https://youtube.com/playlist?list=PLN4aKSfpk8TSeOH1\\_KsX8W4V9hHtzNj1j](https://youtube.com/playlist?list=PLN4aKSfpk8TSeOH1_KsX8W4V9hHtzNj1j)

**Hashing** -> [https://youtube.com/playlist?list=PLEJXowNB4kPxWxRGSSn4qLdZm0h\\_XHqzt](https://youtube.com/playlist?list=PLEJXowNB4kPxWxRGSSn4qLdZm0h_XHqzt)

**Sliding window techinque** -> [https://youtube.com/playlist?list=PL\\_z\\_8CaSLPWeM8BDJmIYDaoQ5zuwyxfj](https://youtube.com/playlist?list=PL_z_8CaSLPWeM8BDJmIYDaoQ5zuwyxfj)

**Trees** -> <https://youtube.com/playlist?list=PLgUwDviBlf0q8Hkd7bK2Bpryj2xVJk8Vk>

**Graphs** -> <https://www.youtube.com/watch?v=1v-xWsqWjeA&list=PLN4aKSfpk8TQwHTE3ZAz6felbFY2UcLYR>

**Trie** -> <https://youtube.com/playlist?list=PLgUwDviBlf0pcIDCZnxhv0LkHf5KzG9zp>



**Use these resources  
only to understand  
the concept, not  
as the source  
of questions.**



***ATTITUDE MATTERS MORE  
THAN KNOWLEDGE***

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