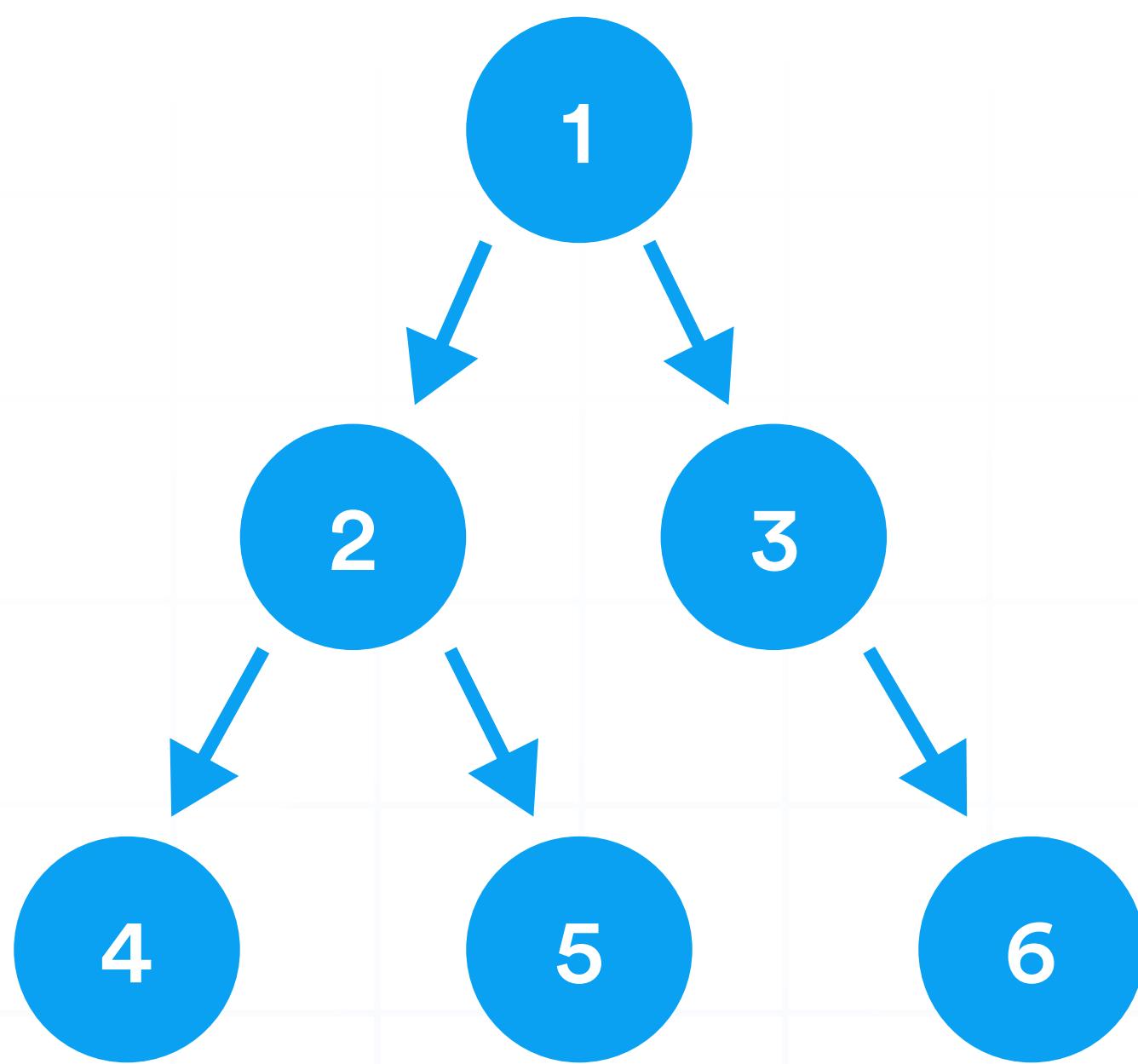


HOW TO MASTER

# PROBLEM SOLVING IN DSA

Basic to Advance



**BOSSCODER**  
ACADEMY

X

**REVANTH**  
MURIGIPUDI



## Disclaimer

This is an action-oriented document,  
when you tick all the boxes consider  
yourself prepared for the DSA Interview.



2 - 4 Weeks

# FUNDAMENTALS OF A LANGUAGE

- Learn + command** any 1 language. Be it C++/java/python or any other
- Solve lots of basic problems** to learn the syntax of the language.  
**Ex:** - prime number, palindrome, Armstrong number, patterns problems, etc
- Solve problems along with the **theory of the Language**



# BABY STEPS



Start basic **DSA topics** to get hands-on with **problem-solving**



Kick start **Data Structure** with

- Arrays
- Strings
- Stacks
- Queues
- Linked lists
- Hashmaps
- Set



In **Algorithm cover**

- **Searching** - Linear, naive binary search
- **Sorting** - Bubble, insertion, selection
- **Greedy** - Don't ignore! Helps in understanding basic implementation
- **Recursion & backtracking**



**Time & space complexities** - Try to understand the time + space complexity with each problem you solve



**DSA practical knowledge** is equally important as **theoretical**.

**Do not skip on either**



2 - 4 Weeks

# ROME WASN'T BUILT IN A DAY!

- ▶ **Decode & solve** the problem at your pace
- ▶ Blocked and feel like quitting? Remember **WHY** you began!
- ▶ Take small **breaks & resume** again
- ▶ **It's okay** to look at the solution if you get blocked by a question

## ✓ In Advance Algorithms

- ❑ **Searching** → Modified binary search
- ❑ **Sorting** → Merge sort, quick sort, heap sort
- ❑ **Arrays** → Two/ Three-pointer, Sliding window, kadane's algorithm, merge sort/intervals logic etc
- ❑ **Strings** → Substrings, subsequences, pattern matching, lexicographic ordering, etc
- ❑ **Binary trees & Binary search trees** → Traversals like Inorder, preorder, postorder, morris traversal (both iterative & recursive)
- ❑ **Graphs** → Depth-first search (DFS), breadth-first search (BFS), topological sort, cycle detection, minimum spanning tree (MST) - Prims & Kruskals, Dijkstra, Bellman-Ford, Floyd Warshall, disjoint set union (union)
- ❑ **Divide & Conquer**
- ❑ **Dynamic programming** → Memoization, tabulation



8 - 12 Weeks

# TIME TO ADVANCE

- Start basic DSA topics to get hands-on with **problem-solving**
- In advance Data Structure**
- Trees - Binary Trees & Binary search trees
- Graphs
- Heaps
- Tries

# CONTESTS TO THE RESCUE

- ▶ Simulates **real interview** timed situations
- ▶ Makes you think of solutions faster under **time pressure**
- ▶ Helps you **assess your ability** to come up with your own solutions
- ▶ **Boosts confidence**

# KEEP REVISING

- ▶ Note down the **patterns** encountered while solving problems
- ▶ Don't solve random problems, **go topic by topic**
- ▶ **Revisit patterns + problems** every 2 weeks to keep the basics strong & steady

# MISCELLANEOUS TOPICS

- Bit manipulation
- Segment trees
- Number theory
- Focus more on **fundamentals** and you'll be able to approach most problems

## DON'T FORGET

- That comparing with others, **won't help** you!
- Document your **growth** & assess how far you have come
- That a **placement mindset** can harm your learning phase
- Set a **timeline target** & try to master in that



## WHY BOSSCODER?

 **1000+** Alumni placed at Top Product-based companies.

 More than **136% hike** for every **2 out of 3** working professional.

 Average package of **24LPA**.

The syllabus is most up-to-date and the list of problems provided covers all important topics.

Lavanya  




Course is very well structured and streamlined to crack any MAANG company

Rahul .  




[EXPLORE MORE](#)