



RV Educational Institutions

RV Institute of Technology and Management ®
Bangalore – 560076

Department of Computer Science and Engineering

Event Name	3-day workshop on Data Structures and Algorithms
Date	11 th – 13 th October 2025
Venue	6 TH Floor UG Seminar Hall, RVITM
Audience	3 rd semester students
Resource person(s)	Mr. Mahesh Arali, Founder of Algorithms365 & Mr. Prince Jayaseelan, Senior Engineer at Tekion
Faculty Coordinator(s)	Mr. Sudheendra B S and Dr. Shashidhar V

Objective of the Program:

The workshop aims to provide participants with a strong foundation in Data Structures and Algorithms, focusing on core concepts and efficient problem-solving techniques. It covers essential structures like arrays, linked lists, stacks, queues, trees, and graphs, along with key algorithmic strategies such as sorting, searching, recursion, dynamic programming, and greedy methods.

The program also offers hands-on coding practice using industry-relevant problems and guided exercises to help students understand how DSA is applied in real-world scenarios and technical interviews.

Topics Covered:

Day-1 and Day-2:

The technical session(s) was delivered by Mr. Mahesh Arali.

Mahesh Arali is a seasoned technology leader from the Indian IT product industry, with nearly two decades of experience in software engineering and leadership. He spent over 16 years at Microsoft, where he began his journey as a Junior Developer and steadily grew to become a Principal Engineering Manager. During his tenure at Microsoft, Mahesh mentored hundreds of engineers, led multiple high-impact projects, and conducted numerous technical interviews, helping shape Microsoft's engineering talent pipeline. After an accomplished corporate career, he decided to pursue his passion for education and technology by founding his own EdTech startup - algorithms365. Through algorithms365, Mahesh is on a mission to help young engineers master Data Structures, Algorithms, and technical interview preparation. His teaching approach blends real-world engineering insights with structured problem-solving techniques — empowering students to become confident, industry-ready developers. He also actively shares his knowledge on his YouTube channel and Instagram page, both under the name @algorithms365, where thousands of learners follow his journey and learn from his experience.

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Key highlights of the session include:

1. Introduction to Data Structures and their importance:
 - Explanation of what Data Structures are and their role in organizing and managing data efficiently.
 - Discussion on why Data Structures are essential for real-world applications and technical interviews.
 - Understanding how choosing the right data structure improves performance and scalability.
2. Arrays and Linked Lists:
 - Detailed overview of arrays, their properties, operations, and common use cases.
 - Introduction to Linked Lists, covering Singly Linked Lists (SLL) and Doubly Linked Lists (DLL).
 - Understanding Stack and Queue as linear data structures, their operations (push, pop, enqueue, dequeue), and real-world use cases.
3. Time & Space Complexity + Stack and Queue:
 - Introduction to Big-O notation for analyzing algorithm efficiency.
 - Explanation of time and space complexity for different operations across arrays, linked lists, stacks, and queues.
 - Discussion on how algorithm efficiency impacts performance in coding interviews and practical applications.
4. Hands-on Interview Problem Solving:
 - Participants practiced solving coding problems based on arrays, linked lists, stacks, queues, and complexity analysis.
 - Guided explanation of structured problem-solving approaches commonly used in interviews.
5. Discussion on Important Interview Questions:
 - Analysis of frequently asked DSA interview questions and ideal strategies to solve them.
 - Insights into what interviewers expect and how to present solutions clearly and efficiently.
 - Tips for improving logical thinking, coding style, and time management during interviews.

Day-3:

The final day of the workshop was conducted by Mr. Prince Jayaseelan, who provided practical insights into Data Structures with a strong focus on real-world usage and interview relevance. Prince Jayaseelan is a Full-Stack Development Specialist with 7 years of experience in leading frontend initiatives and mentoring teams. He is currently working as Senior Software Engineer at Tekion since May 2025. He has expertise in HTML5, CSS3, JavaScript (ES2015+), ReactJS, Redux, AngularJS, and Angular, utilizing tools like Webpack and Gulp for efficient workflows. He has proven track record in developing responsive, high-performance web applications, particularly in e-commerce, while creating reusable UX components to enhance consistency and reduce code duplication. He is committed to team collaboration, conducting code reviews, and implementing best practices in coding and testing, with a focus on unit testing for stability and maintainability.

Key highlights include:

1. Continuation of Core Data Structures:
 - Recap of fundamental data structures and their importance in solving real-world problems.
 - Emphasis on why companies expect strong DSA skills during technical interviews.
 - Discussion on how mastering DSA improves coding speed, logic, and problem-solving ability.

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2. JavaScript for Data Structure Implementation:

- Hands-on introduction to implementing data structures using JavaScript.
- Understanding how JavaScript handles lists and performing various list operations.
- Practice on writing clean, structured code for better readability in interviews.

3. Practical Application of Arrays, Linked Lists, Stacks, and Queues:

- Working through real-time examples to understand where each data structure is used in industry.
- Implementing common operations such as insertion, deletion, traversal, and searching.
- Understanding use cases like browser history (stack), task scheduling (queue), and dynamic data handling (linked lists).

4. Brief Introduction to Trees:

- A simple overview of trees and why they are a crucial part of advanced data structures.
- Understanding basic concepts such as nodes, levels, and hierarchical representation.
- Small examples to help participants visualize tree usage.

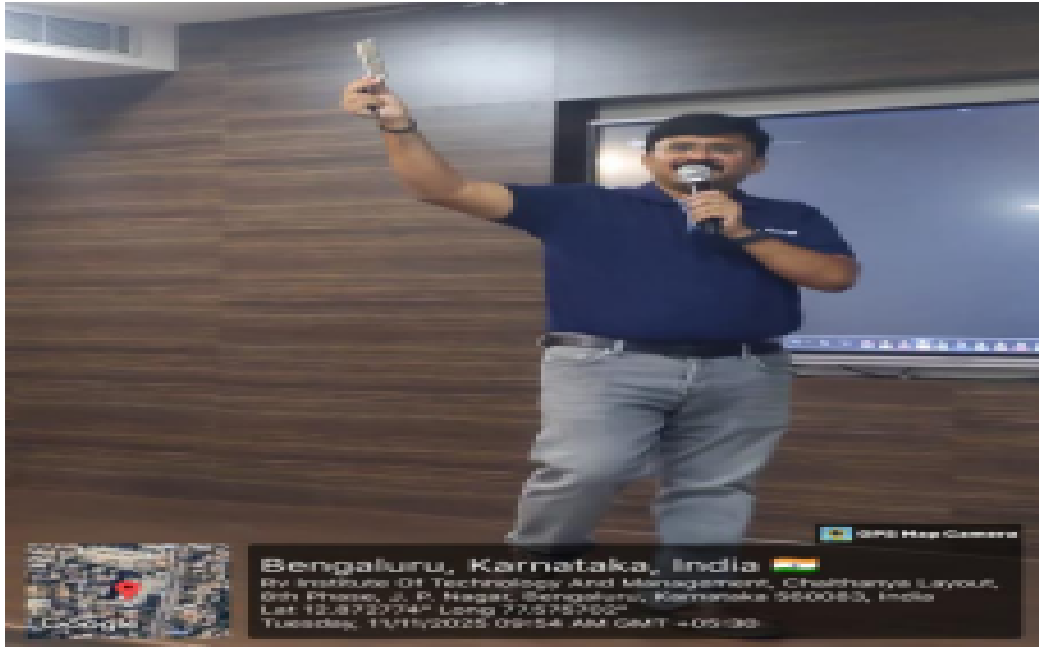
Brief Report

The workshop on Data Structures and Algorithms was conducted over three days by two industry experts — Mr. Mahesh Arali, Founder of *Algorithms365* and Mr. Prince Jayaseelan, Senior Software Engineer at Tekion.

On Day-1 and Day-2, Mr. Mahesh introduced students to the fundamentals of DSA, explaining the importance of data structures in coding and interviews. Key topics covered included arrays, singly and doubly linked lists, stacks, queues, and the basics of time and space complexity. Students also practiced hands-on problems and discussed commonly asked interview questions.

On Day-3, Mr. Prince continued the session with a practical approach using JavaScript, teaching list operations and the real-time application of arrays, linked lists, stacks, and queues. The session ended with a brief introduction to trees.

Overall, the workshop helped students strengthen their understanding of core data structures, gain practical coding experience, and develop a clearer understanding of interview patterns, expectations, and problem-solving approaches.



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Coordinator's Signature

HOD's Signature





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