



## **Workshop on Data Structures and Algorithms for Competitive Programming**

Organized by  
The Department of MCA

**Date:** 31<sup>st</sup> May 2025

**Venue:** MCA Lab

### **Brief Description of the Event**

The workshop on Data Structures and Algorithms for Competitive Programming was conducted to train students with essential problem-solving techniques and algorithmic approaches. The workshop offered MCA students hands-on experience in solving algorithmic problems, with a focus on data structures and logic-building techniques essential for competitive programming. It aimed to strengthen their problem-solving and coding skills.

### **Topics Emphasized**

#### **Importance of Data Structures in Competitive Coding**

Data structures organize and store data efficiently, enabling faster access and manipulation, which is crucial for solving complex problems in competitive programming.

#### **Time and Space Complexity Analysis**

Understanding the efficiency of algorithms by analyzing their running time and memory usage helps in choosing the best solution within given constraints.

#### **Searching and Sorting Algorithms**

Fundamental techniques used to locate elements and arrange data form the basis for many complex algorithmic solutions.

#### **Stack, Queue, Linked List, Trees, and Graphs**

Essential data structures that help manage data with specific access patterns, enabling efficient problem solving in areas like traversal, scheduling, and networking.

## **Dynamic Programming and Recursion**

Techniques for solving problems by breaking them down into overlapping subproblems (dynamic programming) or by defining problems in terms of simpler versions of themselves (recursion).

## **Problem-Solving on Codeforces, LeetCode, and HackerRank**

Practical application of concepts through solving real-world coding challenges on popular competitive programming platforms to improve speed and accuracy.

## **Strategies for Optimization in Code**

Methods to improve algorithm performance include reducing time complexity, minimizing memory usage, writing cleaner, and faster coding.

## **Outcomes**

- Participants gained a solid foundation in core data structures and algorithms.
- Improved problem-solving speed and accuracy through practical exposure.
- Students registered on coding platforms and started solving problems.
- Created awareness of interview-level coding patterns and techniques.

## **Activities Conducted**

- Technical Talk on algorithmic approaches and coding best practices.
- Live Coding Sessions demonstrating solutions to standard problems.
- Hands-on Practice on selected platforms with real-time problem solving.
- Discussion on Career Paths in competitive programming and software engineering

Number of Participants: 46

Winners: (if any, for activities conducted): NA



Guest Details (Name, Designation, Organisation, Location) :

Mr. Ankit Kumar

Senior Software Engineer, Oracle

Bangalore


## Photographs


**NEW HORIZON**  
COLLEGE OF ENGINEERING


Department of Master of Computer Applications


**Workshop**


**Data Structures and Algorithms  
for Competitive Programming**

 **31<sup>st</sup> May 2025**

 **10:00 AM - 01:00 PM**

 **MCA LAB 1**

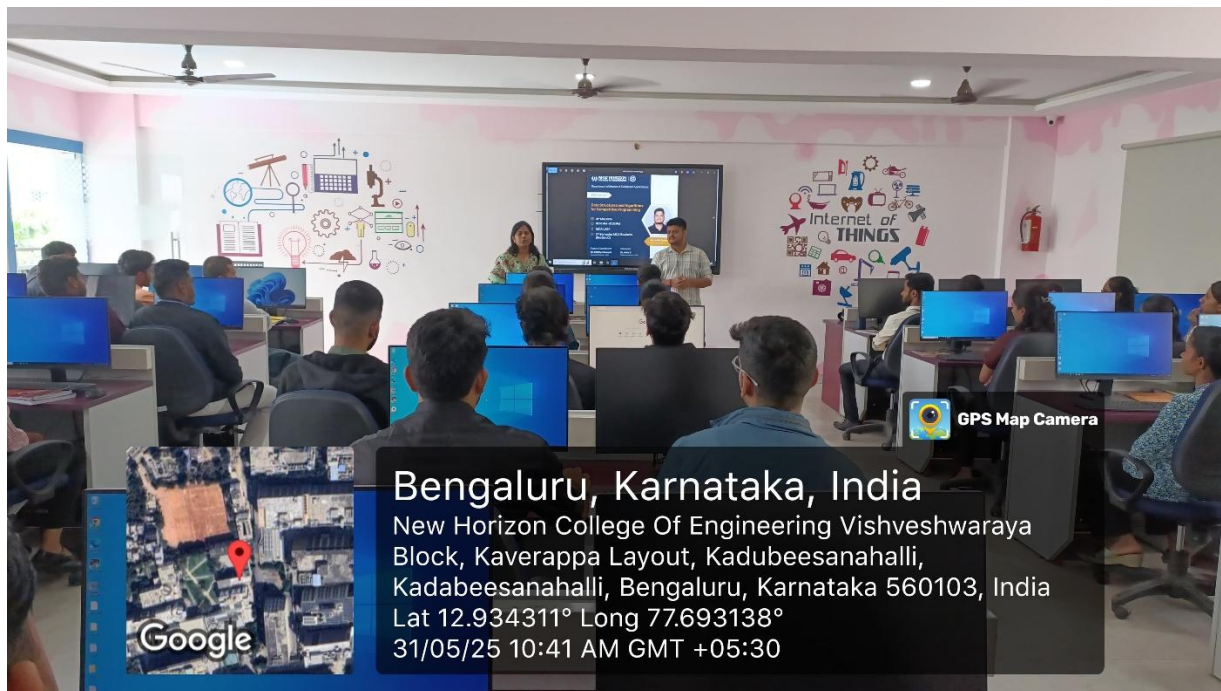
 **2<sup>nd</sup> Semester MCA Students  
(Section C)**

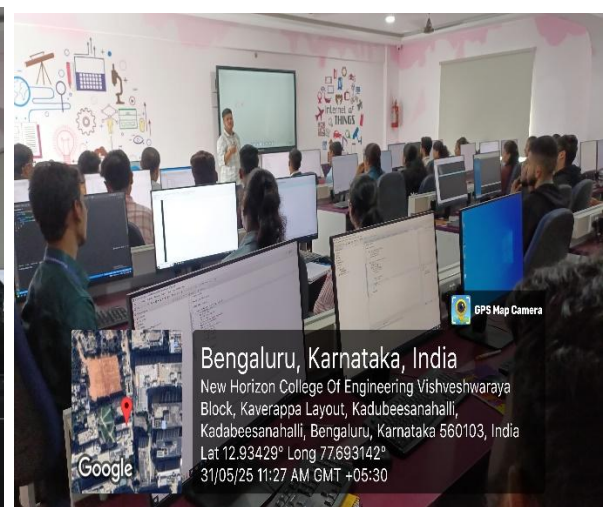
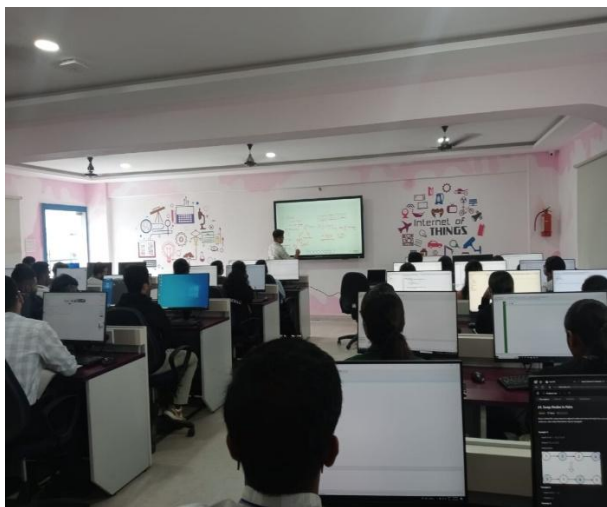
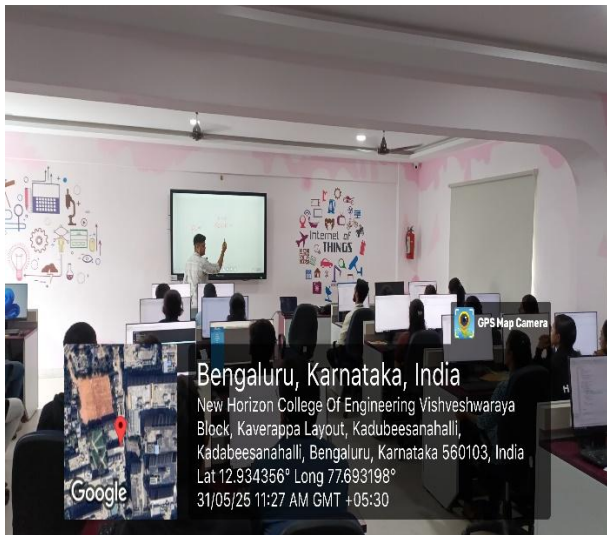


**Mr. Ankit Kumar**  
Senior Software Engineer,  
Oracle (Health and AI)

Faculty Coordinator  
**Dr. B Nithya Ramesh**  
Associate Professor - MCA

Convenor  
**Dr. Asha V**  
Professor and Head - MCA



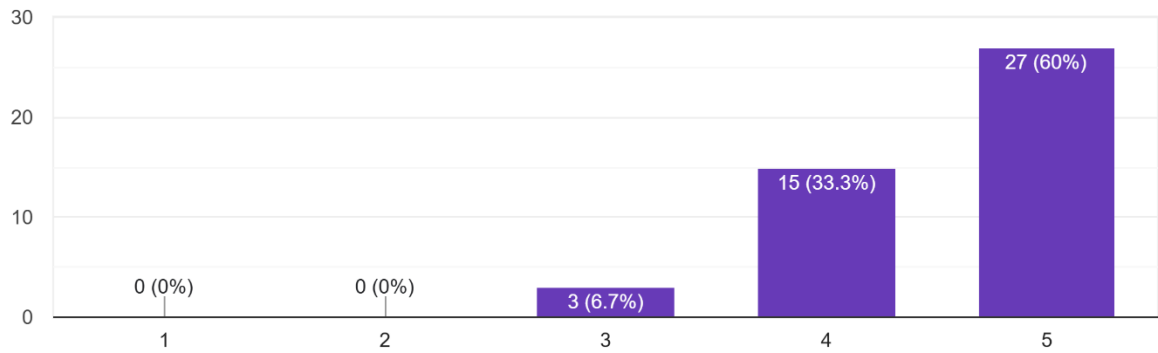




# Feedback

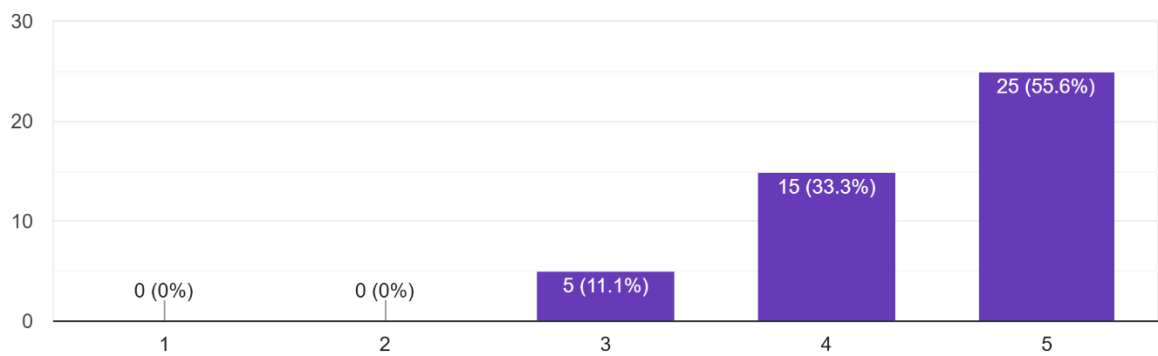
## Quality of the training content

45 responses



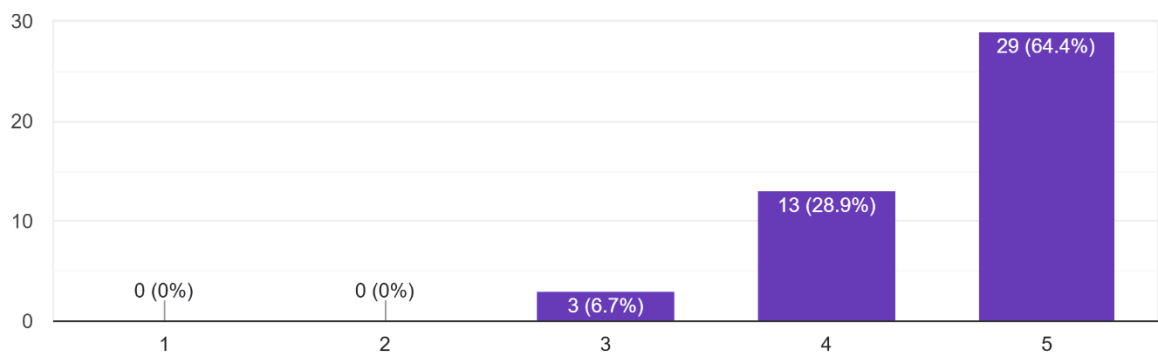
## Clarity of the presentation.

45 responses



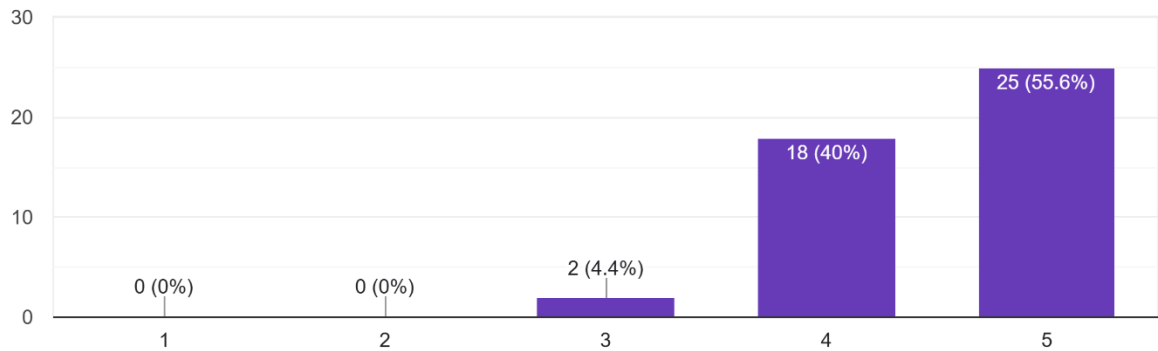
## Effectiveness of the examples depicted during the session.

45 responses



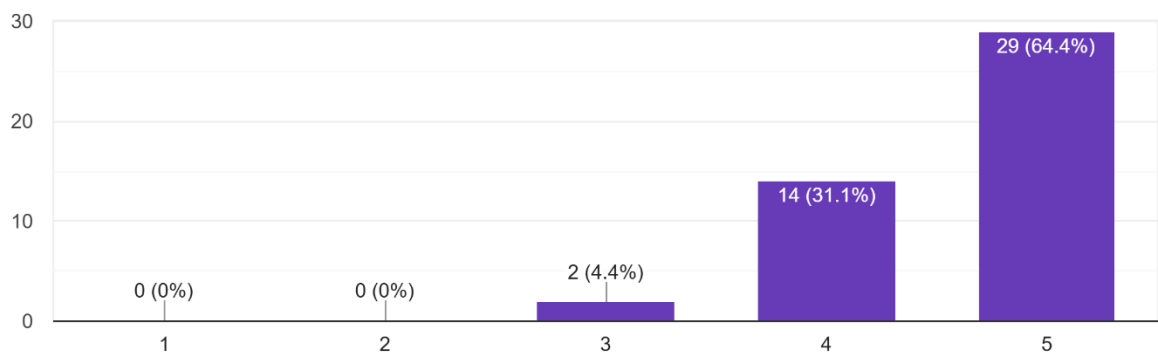
### Achievement level in understanding the topics

45 responses



### How relevant was the content of the session to your course or academic interests?

45 responses



**FACULTY COORDINATOR**

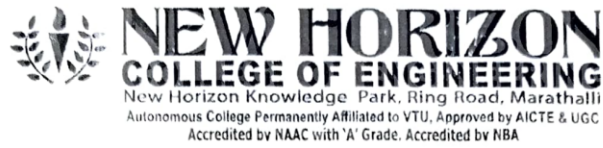
**Dr. B NITHYA RAMESH**

**HoD-MCA**

**Dr. ASHA V**

Head of the Department  
Department of Master of Computer Applications  
NEW HORIZON COLLEGE OF ENGINEERING  
2nd Stage Road, Bellandur Post, Bengaluru - 560 103

Attendance:



**WORKSHOP - DATA STRUCTURES AND ALGORITHMS FOR  
COMPETITIVE PROGRAMMING**

A.Y. 2024-25

**RESOURCE PERSON:** Mr. Ankit Kumar, Senior Software Engineer, Oracle, Bangalore

**VENUE:** MCA Lab

**DATE:** 31-05-2025

**TIME:** 10.00 AM to 1:00 PM

**FACULTY COORDINATOR:** Dr. B Nithya Ramesh

**CONVENOR:** Dr. V Asha

SERIAL NO	USN NO	NAME	SIGNATURE
1	INH24MC138	Suyash Trivedi	
2	INH24MC136	Sumit Singh	
3	INH24MC151	Vaishakh J Bhat	
4	INH24MC167	Gowtham	
5	INH24MC147	Thirupathi M.V	
6	INH24MC161	Yashaswini T.P	
7	INH24MC142	Tanmay Rana	
8	INH24MC012	A Kashiraj	
9	INH24MC029	Bhagavati	
10	INH24MC039	Dakshayani Gond	
11	INH24MC117	Sanket	
12	INH24MC116	Sandeep Lakshman flester	
13	INH24MC004	Achyut	

DATED: 31-05-2025

S.No.	USN	NAME	SIGNATURE
14	INH24M032	Bhavya M	Bhavya
15	INH24M030	Bhanu Pritya K.	Bhanu
16	INH24M013	Alleshaya M.V	Alleshaya
17	INH24M0139	Swamini D Kalgutkar	Swamini
18	INH24M0152	Vaishnavi P.R. Bongale	Vaish
19	INH24M0135	Sumo R Padi	Sumo
20	INH24M0146	Tejashwini G.S	Teja
21	INH24M0164	Harshitha K	Harshitha
22	INH24M0165	Jyothi N Sarasambi	Jyothi Sarasambi
23	INH24M0137	Sushmitha R	Sushmitha
24	INH24M0137	Shubhoshree TK	Shubhoshree
25	INH24M0128	Snetha GR	Snetha
26	INH24M0154	Venu J	Venu
27	INH24M0121	Sarika Reddy Gnanapriya Prakash	Sarika
28	INH24M0118	Santhosh N	Santhosh
29	INH24M0122	Shankar Shetye	Shankar
30	INH24M0166	Venkaresh P	Venkaresh
31	INH24M0119	Sanath Bibin B	Sanath
32	INH24M0114	Tejas Gauda	Tejas
33	INH24M0123	Sharfarij Gummali	Sharfarij
34	INH24M0126	SHUBHAM - SHARMA	SHUBHAM
35	INH24M0156	Vinay B. H	Vinay
36	INH24M0130	Lion D	Lion
37	INH24M0160	Vivek R. K	Vivek
38	INH24M0133	Sujay Mundaagi	Sujay
39	INH24M0124	Shashank M. Madhya	Shashank M.



DATED: 31-05-2025

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EVENT COORDINATOR

  
HOD, MCA

Head of the Department  
Department of Master of Computer Applications  
NEW HORIZON COLLEGE OF ENGINEERING  
2nd Road, Bellandur Post, Bengaluru - 560 103