

# Java Training Program Report

*Program Duration:* 20<sup>th</sup> April - 15<sup>th</sup> July 2023

*Student Mentor:* Parth Bhalerao

*Faculty Coordinator:* Prof. Prasheel Thakre

*Name of Program:* Java Programming and Project Development.

# **Introduction**

**The Java Programming and Project Development Training Program was a three-month program that was conducted at Tata-CIIIT RCOEM from April 20th to July 15th, 2023. The program was mentored by Parth Bhalerao and had a strength of 8 students of the Electronics and Communication Department who will be graduating in 2025.**

**The program was designed to provide the students with a strong foundation in Java programming and data structures and algorithms. The students also gained hands-on experience in developing Java projects. In addition, the students were prepared for software engineering interviews and helped to develop their resumes.**

## **Objectives**

**The specific objectives of the training program were to:**

- Provide the students with a strong foundation in Java programming and data structures and algorithms.**
- Give the students hands-on experience in developing Java projects.**
- Prepare the students for software engineering interviews and help them develop their resumes.**

# Content

The training program covered the following topics in detail:

- **Basic Syntax and Architecture of Java Programming Language:**
  - ❖ *The students learned the basic syntax of the Java programming language, including variables, operators, expressions, statements, and control flow. They also learned about the architecture of the Java Virtual Machine (JVM) and how it executes Java bytecode.*
- **Basics of Java Programming Language:**
  - ❖ *The students learned the basic concepts of Java programming, such as objects, classes, methods, and inheritance. They also learned about the different types of data structures in Java, such as arrays, lists, and maps.*
- **Problem solving on 1D & 2D Arrays in Data Structures and Algorithms:**
  - ❖ *The students learned how to solve problems using 1D and 2D arrays. They also learned about different data structures and algorithms, such as sorting algorithms, searching algorithms, and graph algorithms.*
- **Concepts related to Strings in Java and Problem Solving:**
  - ❖ *The students learned about the different concepts related to strings in Java, such as string manipulation, regular expressions, and string searching. They also learned how to use strings to solve problems.*

- **Complete Object-Oriented Programming in Java from basics to advanced:**

- ❖ *The students learned the complete object-oriented programming (OOP) concepts in Java, such as classes, objects, encapsulation, abstraction, inheritance, and polymorphism. They also learned about different design patterns in Java.*

- **Advanced DSA topics including Recursion, Stacks, Queue, Linked-List, Trees & Binary Trees and Graphs:**

- ❖ *The students learned about advanced data structures and algorithms, such as recursion, stacks, queues, linked lists, trees, binary trees, and graphs. They also learned how to implement these data structures and algorithms in Java.*

- **Demonstration of how advanced algorithms are implemented in system design like google maps:**

- ❖ *The students learned how advanced algorithms are implemented in real-world systems, such as Google Maps. They also learned about the different system design principles that are used to implement these algorithms.*

- **Training and Practice on how to solve coding interview problems on Leetcode and other coding platforms:**

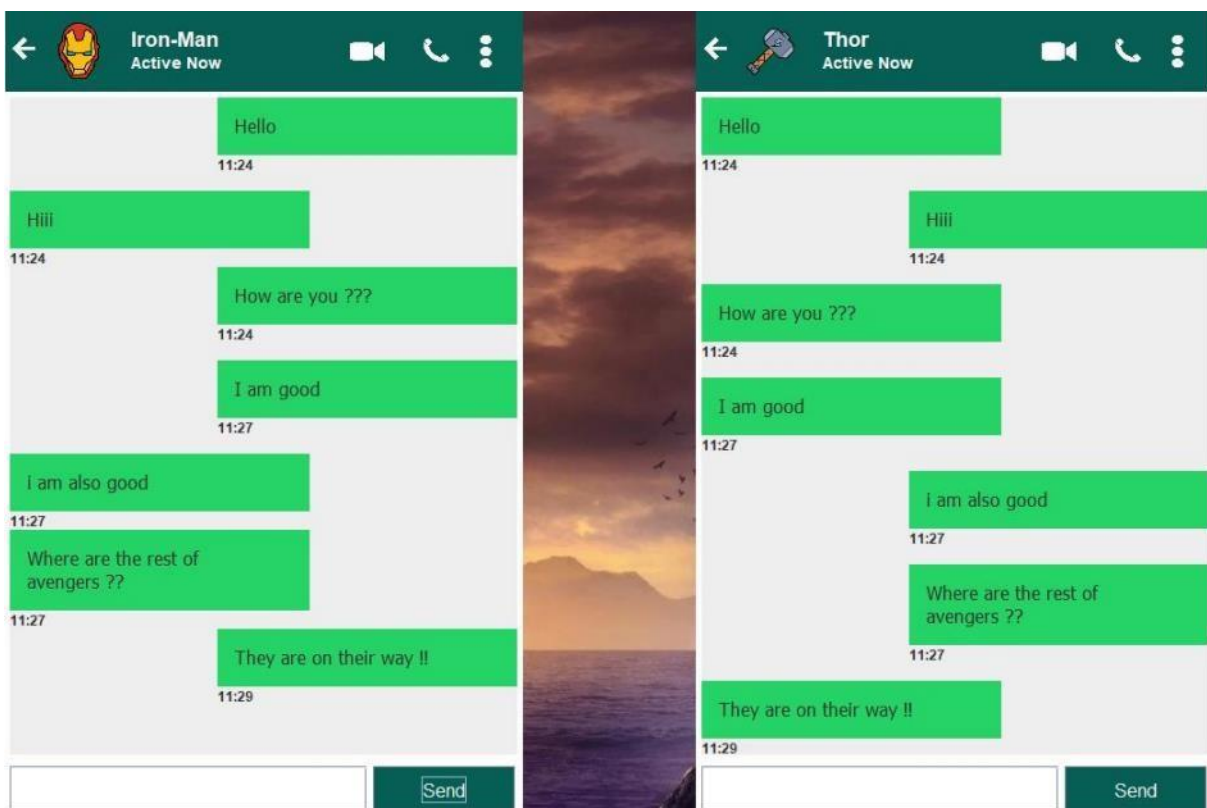
- ❖ *The students were trained on how to solve coding interview problems. They also practiced solving coding problems on Leetcode and other coding platforms.*

- **Guidance on How to prepare for placement interviews and how to make resume:**

- ❖ *The students were given guidance on how to prepare for software engineering interviews. They also learned how to make a resume that would highlight their skills and experience.*

- **Live hands-on project development from scratch for making Whatsapp Clone Chatting Application using Advanced Java Concepts:**

- ❖ *The students developed a WhatsApp clone chatting application from scratch using advanced Java concepts. This project gave them hands-on experience in developing a real-world application.*



**Project Implementation done by students.**

- **Implementation of Java Swing, Java Awt, Server Programming, and Exception Handling and other GUI concepts in Java, for project implementation:**

❖ *The students learned how to implement Java Swing, Java AWT, server programming, and exception handling in Java. They also learned about other GUI concepts in Java.*

## **Outcomes**

**The students who participated in the training program achieved the following outcomes:**

- *They developed a strong foundation in Java programming and data structures and algorithms.*
- *They gained hands-on experience in developing Java projects.*
- *They were prepared for software engineering interviews and had developed their resumes.*

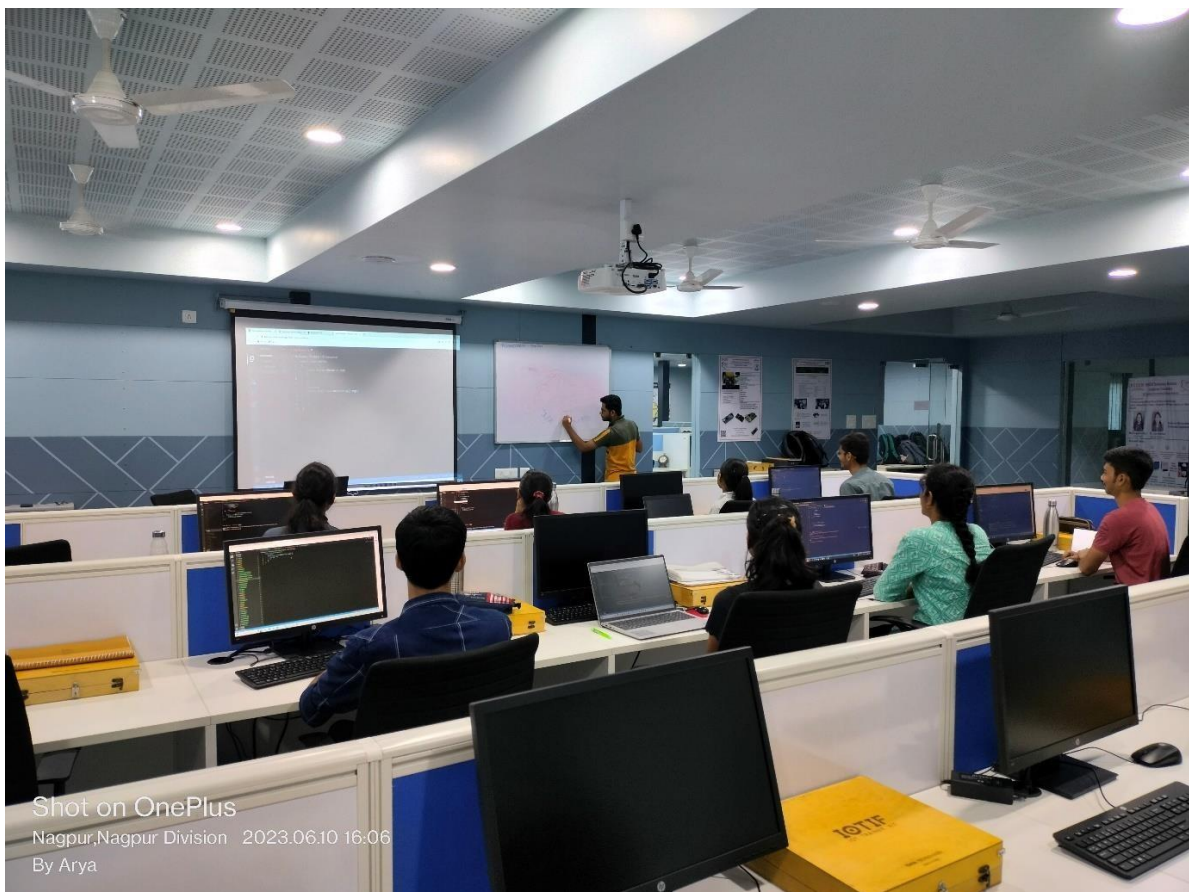
## **Recommendations**

**I recommend that the training program be continued in the future. The program was well-received by the students and they found it to be very beneficial. I believe that the program will help the students to succeed in their careers.**

# Conclusion

**The Java Programming and Project Development Training Program was a valuable experience for the students who participated. The program provided them with the knowledge and skills they need to succeed in their careers. I recommend that the program be continued in the future.**

# Snapshots





Shot on OnePlus  
Nagpur, Nagpur Division 2023.06.10 16:06  
By Arya



Shot on OnePlus  
Nagpur, Nagpur Division 2023.06.10 16:06  
By Arya





Shot on OnePlus  
Nagpur, Nagpur Division - 2023.06.10 16:06  
By Arya



Shot on OnePlus  
Nagpur, Nagpur Division - 2023.06.10 16:06  
By Arya

# **Participants of the Training Program**

**Program and Project Mentor : Parth Bhalerao**

**Name of Students :**

- 1. Arya Dongre**
- 2. Nikhil Kakde**
- 3. Labdhie Bendey**
- 4. Viniya Bhise**
- 5. Piyush Pandit**
- 6. Mayank Mundhada**
- 7. Ishita Jaiswal**
- 8. Charul Anikhindi**

## **Acknowledgement**

**We would like to express our sincere gratitude to Dr. Dipak Dahigaonkar (HOD EC Department), Dr. Y. M. Sonkhaskar (Head TATA-CIIIT RCOEM), and Prof. Prasheel Thakre (Program Event Co-Ordinator), for allowing us to conduct this Java programming and project development bootcamp. We would not have been able to achieve our goals without your support and guidance.**

**We are grateful for the resources that you have provided us with, including the use of the college facilities, the provision of teaching materials, and the help of your staff. We are also grateful for your willingness to listen to our feedback and make changes to the program as needed.**

**We are confident that the skills and knowledge that the students have gained in this bootcamp will be of great benefit to them in their future careers. We would like to thank you again for your support.**