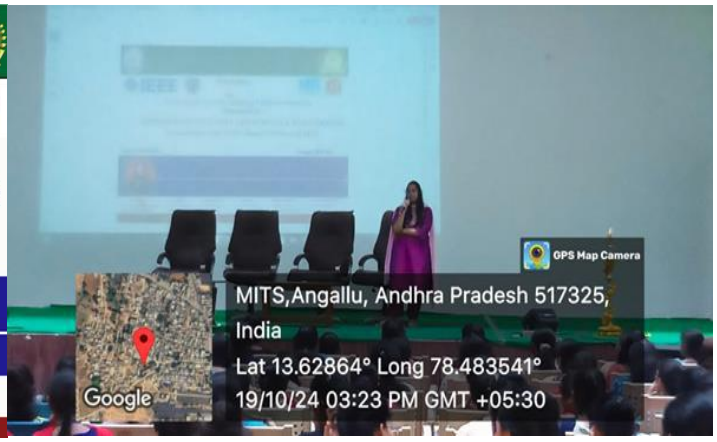
A Report on Workshop
"From Logic to Code: Building Effective Programs"
Organised by Department of Computer Science & Engineering
in association with Alumni Welfare and IEEE
on 19.10.2024



Report Submitted by: Mrs. V. Geetha, Assistant Professor, Department of Computer Science & Engineering.
Resource Person Details: Ms. Shaik Amreen Kousar, Working as Full Stack Developer, Infobell IT, Bangalore.
Mode of Conduct: Offline
Venue and Time: WB-308 and 3:00 PM to 4:00 PM.
Report Received on 07.11.2024.

The Department of Computer Science & Engineering organized a workshop on “From Logic to Code: Building Effective Programs " for III B. Tech students.

The inauguration of the workshop started at 3:00 PM in the Auditorium. The dignitaries were Dr. M. Sreedevi, HOD—CSE, Ms. Shaik Amreen Kousar, Working as Full Stack Developer, Info bell IT, Bangalore; Dr. R. Kiran Kumar, Alumni Relationship Officer; and Mrs. V. Geetha, Department Alumni Coordinator.

The lecture was started with opening remarks by, Dr. M. Sreedevi who thanked Management for this great initiation of creating an opportunity to invite the Alumni members of the institute and enabling them to interact with the students and enlightening them with the current developments in the corporate world. Dr. R. Kiran Kumar has shown pleasure and promised to conduct many more lectures in future for the benefit of the students.

Mrs. V. Geetha has introduced about the speaker and invited her to share her valuable experiences to the students. The number of students who participated in the lecture were around 70.

Introduction:

"From Logic to Code: Building Effective Programs" is an essential journey for anyone looking to bridge the gap between theoretical concepts and practical coding skills.
Here’s an outline of how you might approach this topic:

Understanding Logic in Programming

- Fundamentals of Logic: Explore boolean logic, logical operators, and how they form the backbone of decision-making in programming.
- Flow Control: Discuss if-else statements, switch cases, and loops (for, while) as tools for controlling program flow based on logical conditions.

Designing Algorithms

- What is an Algorithm? Define algorithms as step-by-step procedures for solving problems.
- Common Algorithm Patterns: Introduce patterns like sorting (e.g., bubble sort, quicksort) and searching (e.g., binary search).
- Pseudocode: Emphasize the importance of writing algorithms in pseudocode to abstract away from specific programming languages.

Translating Logic into Code

- Choosing a Programming Language: Discuss factors in selecting a language (e.g., Python, Java, C++) based on project needs.
- Syntax and Semantics: Cover the basics of the chosen language, focusing on translating logic into correct syntax.
- Error Handling: Introduce common error types and debugging strategies to ensure your code runs as intended.

Building and Testing Programs

- Modular Design: Encourage breaking down programs into functions or classes to enhance readability and maintainability.
- Testing and Validation: Discuss unit testing, integration testing, and how to use frameworks (like pytest for Python).
- Iterative Development: Promote the idea of agile development, continuous integration, and the importance of feedback.

Real-World Application

- Case Studies: Analyze successful projects or open-source contributions to see how logic translates to code in real scenarios.
- Best Practices: Share coding conventions, documentation standards, and version control with Git.

Future Learning and Growth

- Resources for Further Learning: Recommend books, online courses, and communities for continued education.
- Staying Updated: Discuss the importance of following industry trends and advancements in programming languages and tools.

Conclusion:

This workshop aims to build a strong foundation in logical reasoning and its application in programming. Participants will leave with practical skills and resources to continue their learning journey in coding.

The outcome of the programme:

The program outcomes for students attending a workshop on "From Logic to Code: Building Effective Programs" could include several educational and skill-based benefits.

- Understanding of Logical Concepts.
- Algorithm Design Skills.
- Proficiency in Programming Basics.
- Error Handling and Debugging Techniques.
- Testing and Validation Skills.
- Modular and Clean Code Practices.

The session is completed at 4:00 PM, and she clarified the queries of enthusiastic young minds with great zeal during the interaction time.

The resource person was honoured by a token of respectable appreciation by Dr. M. Sreedevi CSE – HOD, Dr. R. Kiran Kumar, Alumni Relation Officer and all department faculty members.

Vote of Thanks:

Mrs. V. Geetha proposed a vote of thanks to the resource person, HOD and Alumni Relations Officer for attending the function. She extended her thanks to the Principal and the Management for their support in conducting the training.