Bharatiya Vidya Bhavan's
Sardar Patel Institue of Technology
Munshi Nagar, Andheri-W, Mumabi-400058

Report

Event Name: WIE C Coding camp

Date of Event: 2023-11-19

Place of Event: Online

In-Charge Member: Shivani Bhat, Dr Aarti Karande

Program driven by: IIC S.P.I.T. and WIE SPIT
Program /Activity Type: Bootcamp
Event Theme: C programming (Technical Theme)
Duration of the Event: 2 hours

Benefits in the term of learning/skill/knowledge obtained: This event was targeted at the first-year students to teach them how to write quality, optimized C programs with clean, readable code. Students were taught basic to advanced concepts of C language which included arithmetic operations, unit conversion programs, conditional statements, operators, datatypes, selection and jump statements, functions, recursion, method overloading, method parameters, arrays, sorting methods, searching methods, 2- dimensional arrays, string operations, structure, union, static and dynamic memory allocation, pointers, macros and file handling. Students were also taught the best practices of writing code and were given tips and problems similar to what they would face in theirPSIPL exams. This session gave them a hands-on experience in programming andboosted their confidence in their preparation for their examinations.
Brief information about the event: This event was conducted as an initiative by WIESPIT. The bootcamp was entirely conducted by Shivani Bhat, the events head and IICCoordinator of WIE SPIT. There was no registration for the session and interested students had to join a WhatsApp Group created for the event.

This event was targeted at the first-
year students of all branches and promotion for the same was done accordingly on social media platforms like Instagram and WhatsApp. Before the session, students were
instructed to install VS Code to write and edit their code and MinGW Software which has the gcc compiler and files to support the coding environment for C Language. Students were also instructed to keep a notebook to note down their doubts and to keep the WhatsApp group open. The session began when students joined in large numbers at 10:30am on the Google Meet link provided by the WIE SPIT Team. Shivani Bhat culminated the session by welcoming students for the event and motivating them to crack their exams with confidence. She presented her screen where she had explanations, algorithms and flowcharts for important concepts in the C programming language. She

initially explained why C language is being taught: C being a middle level programming language and it being a Procedure Oriented Programming language. She explained the different levels of programming languages and different programming paradigms. She explained what are the features of a good program and how students can write clean, readable code with proper naming conventions. The discussion proceeded with the explanation of compilers, interpreters and assemblers to execute the code seamlessly. Attendees were shown how to write a sample C program and run it in the terminal. Then Shivani instructed the attendees to follow along while coding as she explained the concepts of arithmetic operations, types of numbers, unit conversions and conditional statements. Every component of the program was explained like syntax, datatypes, variables, constants. Soon after, the topic of functions, overloading parameters and recursion was explained to the attendees in form of menu driven and factorial programs. The session proceeded with the explanation of arrays and how to declare and allocate memory. Bubble Sorting and Selection Sorting algorithms were explained through programs. Linear and Binary Search algorithms were also explained. The concept of 2-Dimensional arrays: their input, addition, transpose and multiplication were taken up. A short break was also given to students to freshen up for the remaining part of the session. After the break, the concept of strings was explained and different methods and operations on strings like reverse, duplication, removal of certain letters, conversion to uppercase and lowercase were practically demonstrated. This was followed by the concepts of structure and union and how they are used. The practical application of structures in reservation systems was shown. This was followed by the concept of pointers. The importance of the * and & operator was explained. As a precursor to the topic of static and dynamic memory allocation, the concepts of stack and heap were explained. Then the primary differences in static and dynamic memory allocation were shown. Methods to dynamically allocate memory were shown. The last topic of the session was file handling where Shivani spoke about file pointers and how to open and edit .txt files. She showed the attendees programs where book names and is numbers of books were recorded. After this there she showed some programs whoâ€™s output the attendees had to predict and submit the answer through WhatsApp polls. Shivani shared her experience during her PSIPL Lab practical and viva. The session ended with all the students getting the successful answers to their doubts and queries. The session received a heartwarming response from all the attendees who thanked the WIE Team for making the event a success.

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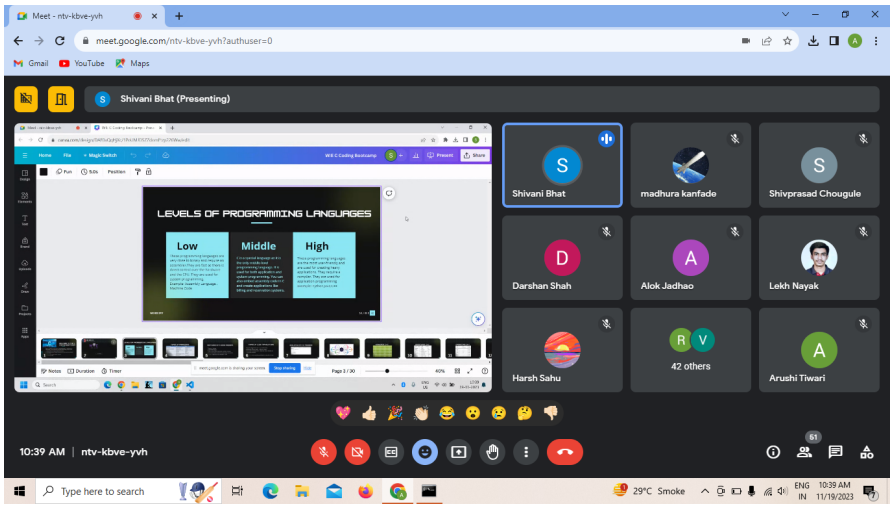

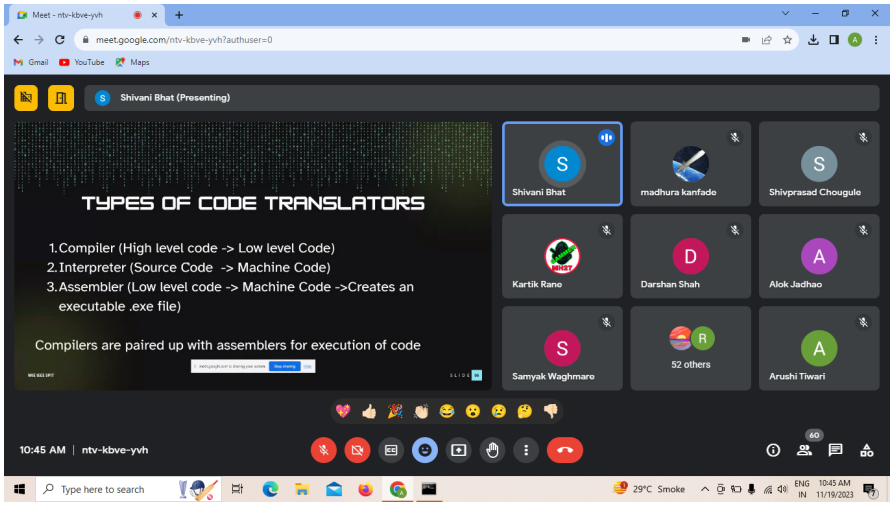

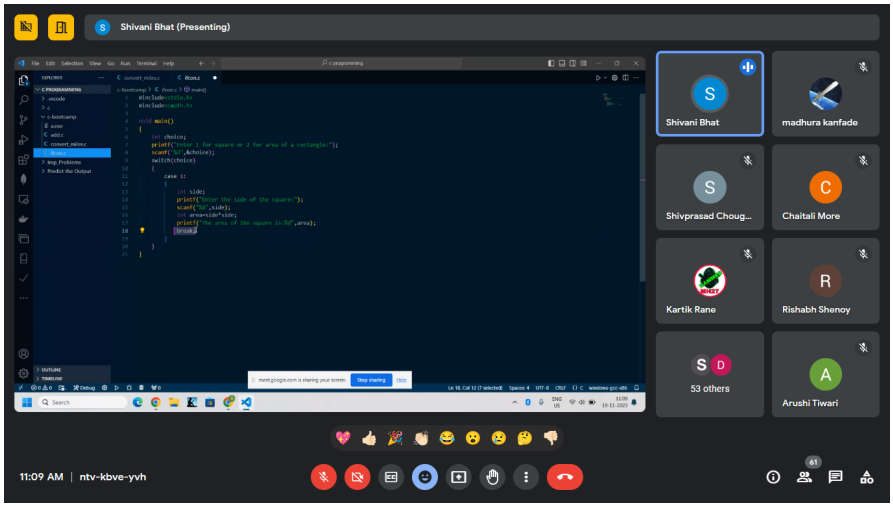
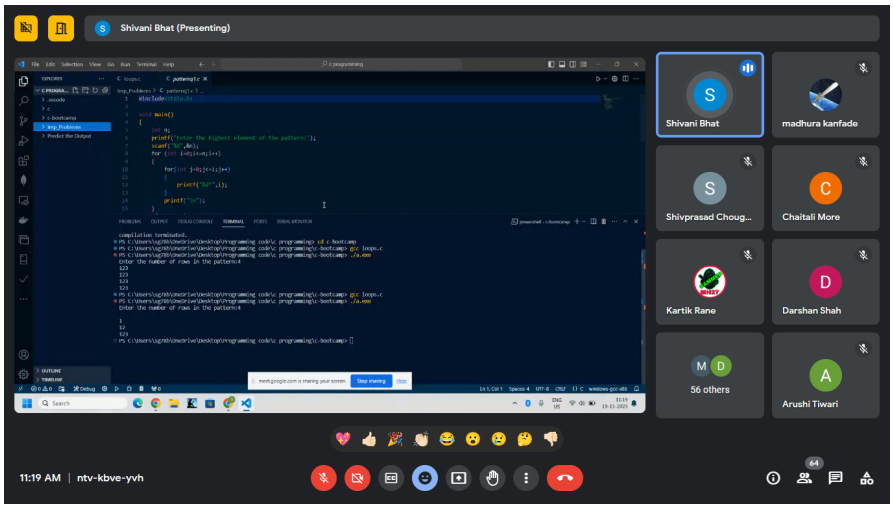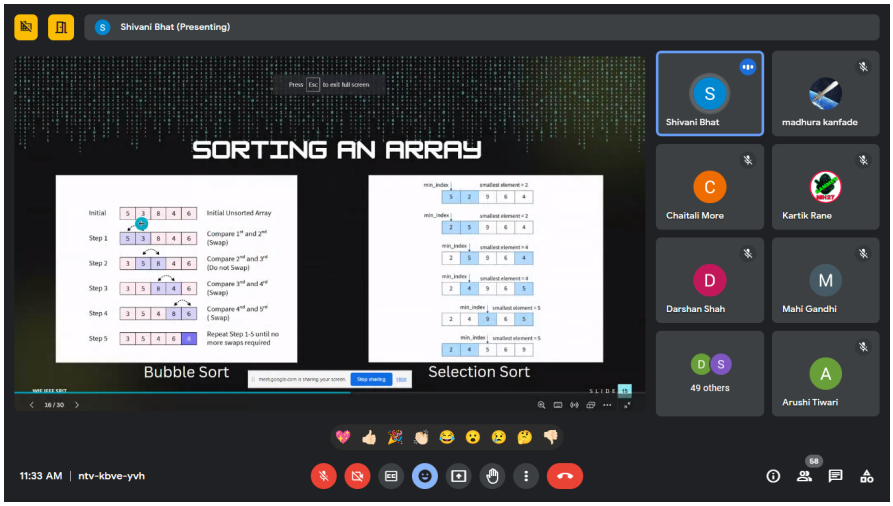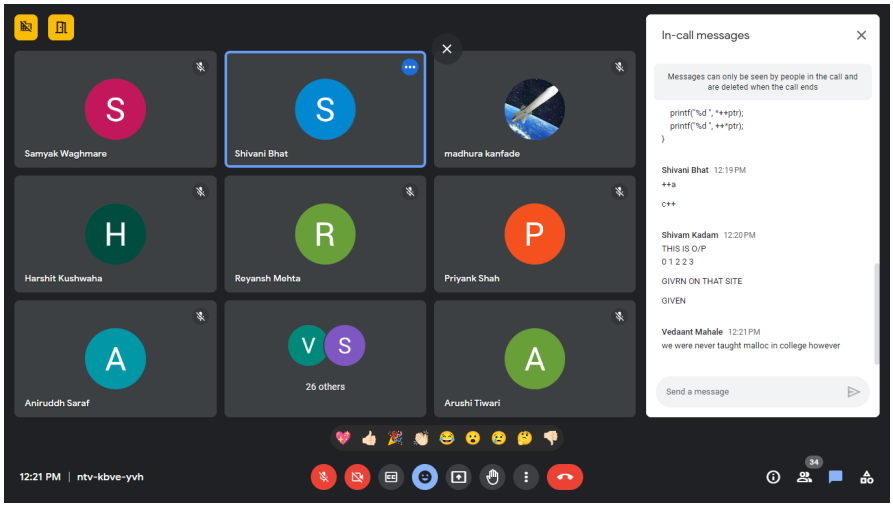
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