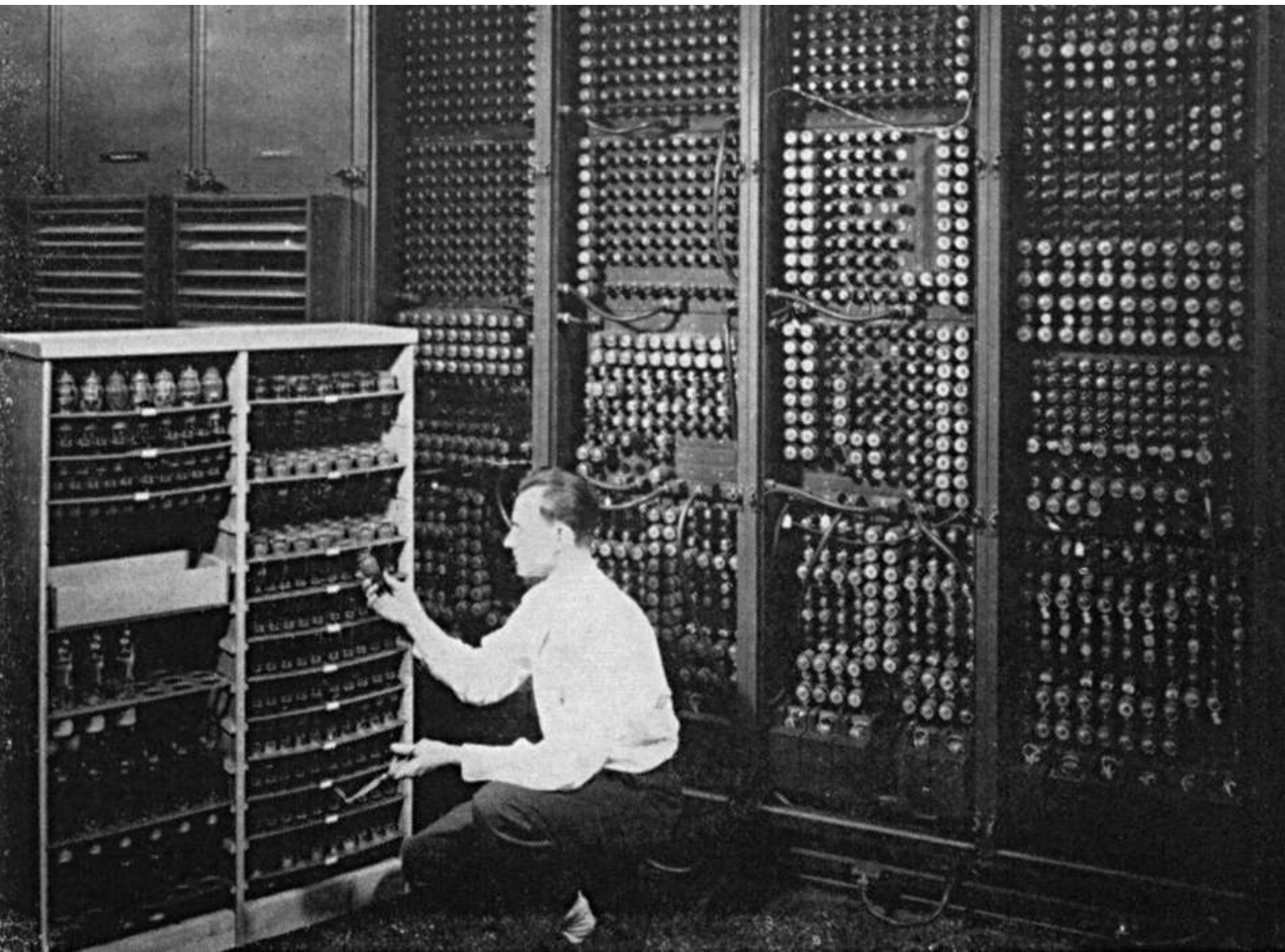




Computer Science Program Level 1

Cheenta Academy for Olympiad & Research

cheenta.com

Since 2010

Passion for Mathematical Science & Research

This program is useful for Informatics and
Computer Science Olympiads (Grades 4 -6)

Success Stories Since 2010



Aryan Kalia

Top 1% globally in American Math Competition,

Attended Math Olympiad Program and School Research Program at cheenta

Attended Student internship program at cheenta

Harvard University in 2022



Sambuddha Majumdar

Scotland Math Olympiad Awardee

Attended Math Olympiad Program at cheenta

Attended Student internship program at cheenta

University of Edinburgh



Anushka Aggarwal

Youngest Indian National Math Olympiad awardee, European Girls Math Olympiad awardee

Attended Math Olympiad Program at cheenta

Attended Student internship program at cheenta

MIT (Massachusetts Institute of Technology) in 2022



Akshaj Kadaveru

American Math Competition, AIME and USAJMO awardee

Attended Math Olympiad Program at cheenta

MIT (Massachusetts Institute of Technology)

Curriculum 48 week program, 5 modules

Module 1



Basic of Scratch and Pseudocode Challenges

10 Lessons



Introduction to Programming with Sprite, Backdrop.
Pseudocode on number swapping



Usage of sound and ambience in the context of
Scratch. Pseudocode to find the Largest Number.



Motion in Scratch (flying, gliding etc.). Pseudocode
to display the sum of first 10 natural numbers.



Movement of Sprite (left, right, up & down).
Pseudocode to display prime numbers



Changes in costume & background. Pseudocode to
find out HCF of 2 numbers.



Calendar Activity. Pseudocode to check a leap year.



Drawing using pen. Pseudocode to reverse number



Scratch involving Piano project. Pseudocode on
number swapping



Drawing something using mouse. Pseudocode on
comparing numbers



Review and Evaluation

Module 2



Concept of Variables, Conditionals & Iterations

10 Lessons



Introduction to elementary problem solving in C, Data Type, Basic Concepts of Variables



Using Variables in Scratch and C



Operators in Scratch and C



Concepts of Conditionals (both in Scratch and C)



Practice problems on Conditionals



Iteration concept in C (While Loop, learn While Loop)



Iteration concept in C (For Loop, Nested Loop)



Iteration concept in Scratch



Practice some pseudo codes and writing codes in C



Review and Evaluation

Module 3



Clones and Lists

10 Lessons



Calculator Project



Drawing of a polygon project



Concept of Clones



Practice problems on clones



Concept of Lists



Further Problems involving Lists



Making worm (project)



Bubble wrap (project)



Chimes (project)



Review and Evaluation

Module 4



Switch Case in C and Parameters in Scratch

9 Lessons



Scrolling background in Scratch.



Flying Space Cat Project in Scratch.



Switch case in C



Function in C. Revisiting Mathematical undertones.



Practice problems from function



Parameter concept in scratch



Practice some Pseudocodes and some programmes in C



Beetle touch the path project in Scratch



Review and Evaluation

Module 5



Elementary Recursion

10 Lessons



Concept of recursion, Basic Pseudocodes involving recursions.



Use of recursion in C



Fibonacci series using recursion in scratch



Break and continue in C



Print a pattern in C



Search a number from an array. Sort an array in C



Hungry shark game in Scratch



Maze game in Scratch



Review and Evaluation

Taught by Olympians and Researchers from leading universities

Since 2010 Cheenta has evolved into a Gurukul. Our students are in leading universities in India such as Indian Statistical Institute, Chennai Mathematical Institute, TIFR, IITs and universities abroad such as Harvard, MIT, Oxford, Edinburgh to name a few. Some of them returned as teachers for the next generation of learners. And the pursuit of excellence continues.



Cheenta Team has 40+ members. Here are some of the leaders.



Srijit Mukherjee

BStat and MStat from
Indian Statistical
Institute (India)
Director at Cheenta



Dr. Ashani Dasgupta

PhD from University of
Wisconsin-Milwaukee (USA)
Founder - Director at
Cheenta



Dr. Anirban Majumdar

PhD from ENS Paris-Saclay,
France on Theoretical
Computer Science, B.Sc.-
M.Sc. from Chennai
Mathematical Institute



Arisha Roy

B tech in Computer Science and
Engineering
Faculty of Mathematics and
Computer Science at Cheenta



Swarnabja Bhowmick

B.Tech in Computer Science from the
University of Calcutta. IEEE Publications.
Faculty of Mathematics and Computer
Science at Cheenta.

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