Accredited by

STEM.ORG ACCREDITED EDUCATIONAL EXPERIENCE

Codingal
Where kids love AI & coding

Grade 9 - 12

Hello ! Young Coders

IOI Algorithms Course

Get ready to fall in love with AI & coding

Visual Studio Code

git

GitHub

About Codingal

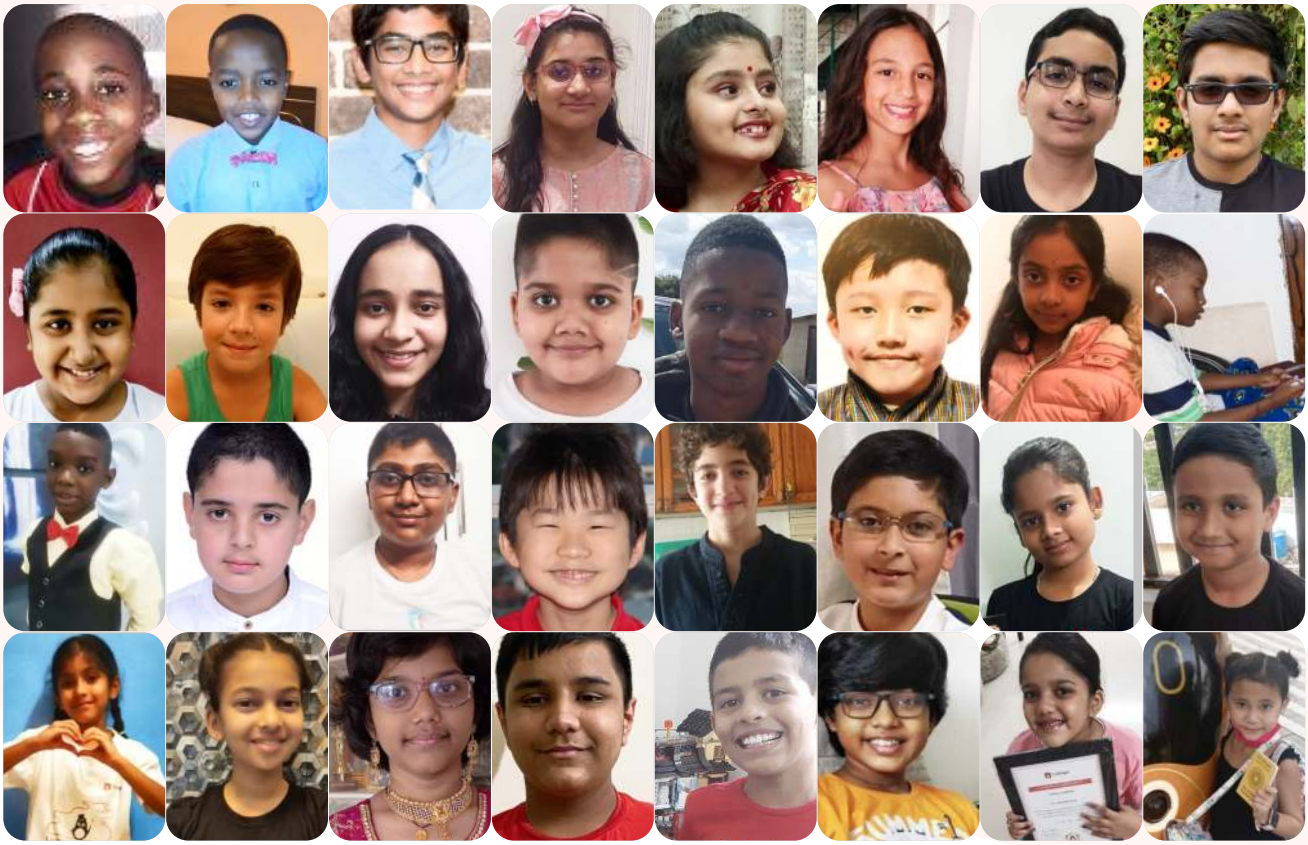
Our Mission: To inspire kids and teens to fall in love with AI & coding

Codingal is a leading online after-school where kids & teens learn AI & coding from expert instructors through live, interactive classes. Our mission is to build the world's largest & most loved programming school for kids & teens, powered by human & AI tutors.

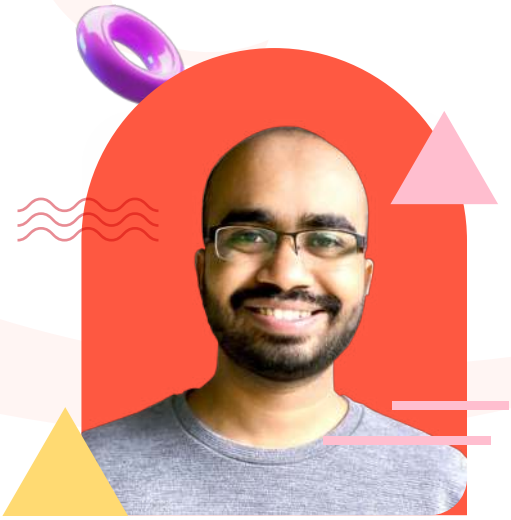
All our instructors come from Computer Science background, and they are rigorously vetted and trained. Every student gets a personalized learning path and individual attention in 1:1 private classes or small group classes with expert instructors. Students learn by building apps, games, animations, and websites in a fun & engaging way.

Kids find Codingal very fun & engaging. They have rated teachers at 4.9 out of 5. Curriculum content is rated at 4.8 out of 5.

Codingal is on a mission to inspire kids to fall in love with AI & coding, and provide the right education to them who will be able to create anything they can imagine and build the future when they grow up to become entrepreneurs, engineers, and scientists.



Founder's Note



Teaching coding and AI to kids is a profound responsibility. Our dedicated educators and meticulously crafted curriculum reflect our deep understanding and commitment to nurturing future innovators.

Vivek Prakash

Co-founder & CEO
B.Tech & M.Tech, IIT Roorkee

Learning to code is not just about reaching new heights like going to Mars or the moon. Coding, along with AI, equips kids with the skills to think critically and creatively, empowering them at multiple levels.

Satyam Baranwal

Co-founder & COO
B.Tech, IIT Dhanbad

Visual Studio Code

Codingal empowers kids to become innovators of the future

Why should kids learn coding?

Coding is the new literacy.

In recent years, technology has made inroads into all aspects of our lives. We've come to rely on websites, apps and gadgets to help us through the day, be it at work or at home.

Given the enormous role technology is going to play in the future, teaching kids to code is the best way to prepare them for success.

What are the benefits of learning coding?

- Helps develop problem solving skills
- Boosts analytical and structural thinking abilities
- Enhances creativity and imagination
- Helps find innovative solutions to real-life issues
- Helps develop resilience

Why this curriculum?

- Accredited by STEM.org
- Rated 4.6 out of 5 by students and parents
- Based on BIDE (Broad, Inspiring, Deep and Efficient) model
- Focus on STEAM (Science, Technology, Engineering, Arts, Math) subjects
- Enhances cognitive, logical, and computational skills
- Makes learning highly effective, interactive, and fun

Visual Studio Code

Foundation of our curriculum

Accredited by

STEM.ORG ACCREDITED EDUCATIONAL EXPERIENCE

BLOOM

Bloom's Taxonomy is a standard guideline for K-12 content development, which includes 6 stages of learning: Remember, understand, apply, analyze, evaluate and create.

BIDE

The BIDE (Broad, Inspiring, Deep and Efficient) model has been developed by Codingal in-house to ensure that our curriculum caters to the unique learning style of every child.

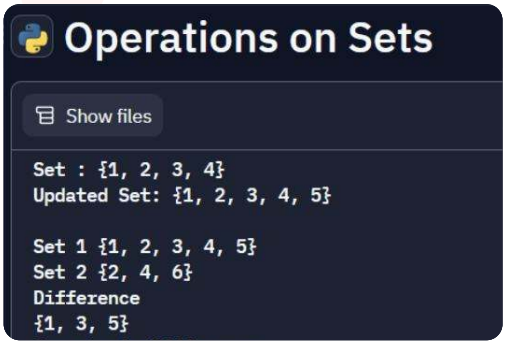
STEAM

STEAM is an approach to learning that uses Science, Technology, Engineering, the Arts and Mathematics as access points for guiding student inquiry, dialogue, and critical thinking.

Covers K-12 Computer Science Framework compliant

Visual Studio Code

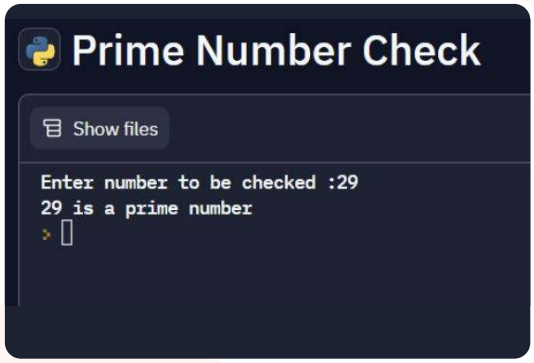
Enhance your kid's Math and Science concept with Codingal



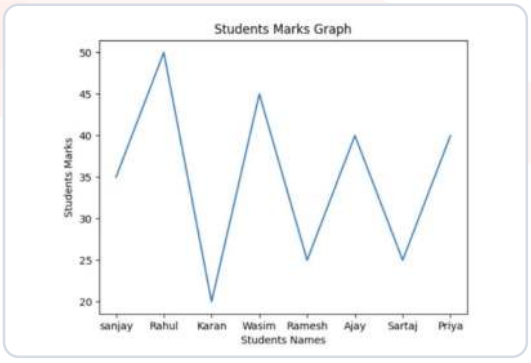
Set Operations

Our engineered coding courses cover essential math concepts like prime numbers, factorials, sets, statistics, probability, etc., helping students understand the concepts and implement them in the practical world. It also helps them in building strong logic for problem-solving.

Coders must strengthen their algorithmic and computational thinking to write a line of code that works well and is bug-free. And what is a possible way of thinking at their core? Math.



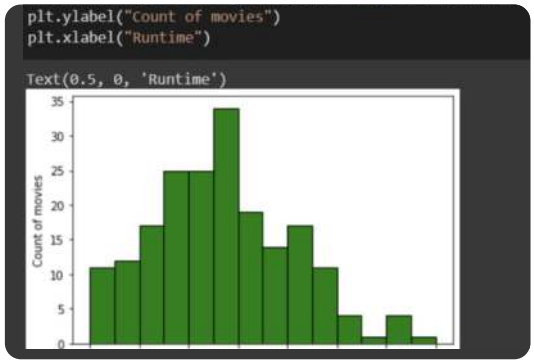
Prime Number Check



Students' Marks Graph

Our teachers provide individual attention to kids, customize projects based on their interests and make them fall in love with Coding, Math, and Science.

With all the data available, Math plays a vital role in identifying various patterns and answering questions to explain human behavior for implementing the same while automating a task. This is where coding and Math go hand in hand.



IMDB Ratings Data Analysis

IOI Algorithms Course - Overview (1)

Learn the basics of data structures and algorithms (DSA), master algorithmic programming techniques, and apply your newly-learned skills to prepare for the IOI

120 Classes
150+ Projects
120 Quizzes

Key learnings

- Master Python from Basic to advanced features.
- Learn and Implement Data Structures.
- Learn and Implement effective Algorithms.
- Enhance Analytical and Problem-Solving skills.
- Hands-on coding and Problem Solving.

Achievements

- Problem solving
- Critical thinking
- Confidence boost
- Hands on programming projects
- Logic Building

Module 1

Python Basics 1

Students will learn the basics of the most popular language i.e. Python with the help of different activities. They will learn about data types, Conditionals and Loops, Functions.In addition they will also create patterns using turtle.

Language: Python
Platform: GitHub
Tools: Visual Studio Code, Git
6 Lessons & 6+ Projects

Module 2

Python Basics 2

Students will learn about data structures, classes, polymorphism, encapsulation and object oriented programming and create various softwares using these concepts

Language: Python
Platform: GitHub
Tools: Visual Studio Code, Git
6 Lessons & 6+ Projects

Young Python Programmer Certificate

Module 3

Basics of Implementation and Mathematics

Space and time complexity, Input-Output, Count Digits, Palindrome Numbers, GCD and LCM, Check for prime, Prime factors of a number, Sieve of Eratosthenes

Language: Python
Platform: GitHub
Tools: Visual Studio Code, Git
6 Lessons & 6+ Projects

Visual Studio Code

IOI Algorithms Course - Overview (2)

Module 4

Bitwise Operations

Representation of numbers as bits, Check if the number is odd using bits, Power of 2, Count set bits, Odd occurring element,Two odd occurring, Three odd occurring, kth bit set or not

Language: Python
Platform: GitHub
Tools: Visual Studio Code, Git
6 Lessons & 6+ Projects

Module 5

Recursion

Concept of Recursion with implementation, Problems on Recursion, Analysis of Recursion

Language: Python
Platform: GitHub
Tools: Visual Studio Code, Git
6 Lessons & 6+ Projects

Advanced Python Developer Certificate

Module 6

Array

Operations(insert, delete) in array, The largest and smallest number in an array, Sum of elements, Reverse array, Move all1's to right, Kadane's Algorithm, Pointer approach in array and more problems.

Language: Python
Platform: GitHub
Tools: Visual Studio Code, Git
6 Lessons & 6+ Projects

Module 7

Searching and Sorting

Linear Search, Binary Search [Problems], Two Pointer Approach, Bubble Sort, Selection Sort

Language: Python
Platform: GitHub
Tools: Visual Studio Code, Git
6 Lessons & 6+ Projects

Visual Studio Code

IOI Algorithms Course - Overview (3)

Module 8

Advanced Sorting Algorithms

Insertion Sort, Merge Sort , Quick Sort and related problems

- **Language:** Python
- **Platform:** GitHub
- **Tools:** Visual Studio Code, Git
- **6 Lessons & 6+ Projects**

Basic DSA Programmer Certificate

Module 9

Linked List and Matrix

Linked List Concept, Implementation, Swapping Elements in Linked List, Two Pointed Linked List Techniques, Matrix , Introduction to Matrix, Matrix Transformation, Matrix Multiplication

- **Language:** Python
- **Platform:** GitHub
- **Tools:** Visual Studio Code, Git
- **6 Lessons & 6+ Projects**

Module 10

Strings

Palindrome, Anagram, Basic Problem Solving in strings, Rabin Karp Algorithm, KMP Algorithm

- **Language:** Python
- **Platform:** GitHub
- **Tools:** Visual Studio Code, Git
- **6 Lessons & 6+ Projects**

Module 11

Stack and Queue

Stack Implementation with array, Implementation with Linked List, Balanced parenthesis , Double stack in an array, Queue, Implementation with array, Implementation with Linked List, Implement stack using queue

- **Language:** Python
- **Platform:** GitHub
- **Tools:** Visual Studio Code, Git
- **6 Lessons & 6+ Projects**

Advanced DSA Programmer Certificate

Visual Studio Code

IOI Algorithms Course - Overview (4)

Module 12

Trees

Tree Introduction, Implementation, Application, Binary Tree,Tree Traversal : Inorder, Preorder, Postorder traversal

Language: Python
Platform: GitHub
Tools: Visual Studio Code, Git
6 Lessons & 6+ Projects

Module 13

BST, Binary Indexed Trees

Making BST, Search in BST, Insert in BST, Deletion in BST, Making segment trees, Use in DBMS, B+,B trees

Language: Python
Platform: GitHub
Tools: Visual Studio Code, Git
6 Lessons & 6+ Projects

Module 14

Heap, Hashing

Introduction to Heap, Implementation, Heapify, Heapsort, Priority queue, Introduction to Heap, Hash function, Collision handling, Questions regarding hashing

Language: Python
Platform: GitHub
Tools: Visual Studio Code, Git
6 Lessons & 6+ Projects

Module 15

Graphs

Graph using Adjacency matrix, Adjacency list, Breadth first search, Depth first search and related problems.

Language: Python
Platform: GitHub
Tools: Visual Studio Code, Git
6 Lessons & 6+ Projects

Specialized DSA Programmer Certificate

Visual Studio Code

IOI Algorithms Course- Overview (5)

Module 16

Graph Algorithms,Backtracking

Dijkstra, Bellman ford, Floyd-Warshall Algorithm, N-queen, Sudoku Problem

Language: Python
Platform: GitHub
Tools: Visual Studio Code, Git
6 Lessons & 6+ Projects

Module 17

Backtracking, Greedy Algorithm

Rat in a maze problem, Problems like Fractional Knapsack, Job Sequencing, Huffman Coding, Activity Selection Problem

Language: Python
Platform: GitHub
Tools: Visual Studio Code, Git
6 Lessons & 6+ Projects

Algorithms Champion Certificate

Module 18

Dynamic Programming 1

Introduction to Dynamic programming , Memoization, Tabulation, Factorial with DP vs Recursion, Longest Subsequence Problems ,Coin Change, Edit Distance Problem

Language: Python
Platform: GitHub
Tools: Visual Studio Code, Git
6 Lessons & 6+ Projects

Module 19

Dynamic Programming 2

0-1 Knapsack, Subset Sum Problem , Maximum Sum with no consecutive, Minimum Coins to make a value, Minimum jumps to reach the end, Matrix Chain Multiplication, Palindromic Partitioning

Language: Python
Platform: GitHub
Tools: Visual Studio Code, Git
6 Lessons & 6+ Projects

Module 20

World of Competitive Programming

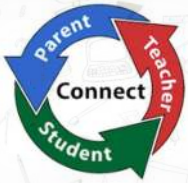
Solve Competitive programming questions asked in Coding competitions(Google Code Jam, Facebook Hacker Cup, etc.),Online rounds of top Product Based Companies (Google,Amazon, Facebook).

Language: Python
Platform: GitHub
Tools: Visual Studio Code, Git
6 Lessons & 6+ Projects

Competitive Programming Champion Certificate

Visual Studio Code

Top 10 benefits of learning at Codingal



1. Regular PTM

Great opportunity for parents and teachers to open two-way communication and to share insights and information for the holistic development of a child.

2. Regular doubt session

After every module solve all your queries in this personalized session. The toughest problems addressed – concepts revised and doubts cleared!

3. Engaging quizzes

Quizzes are fun and help us remember important facts. These well-targeted and tailor-made quizzes will boost self-esteem and confidence among kids.

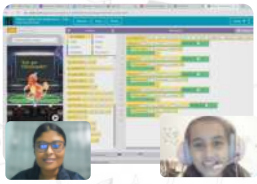
4. Thrilling competitions

Regular competitions are conducted to encourage students to showcase their skills and develop their ideas.

5. Learning Certificates

Show the world what you can do with a certificate for every amazing skill you master.

Top 10 benefits of learning at Codingal



6. Live personalized classes

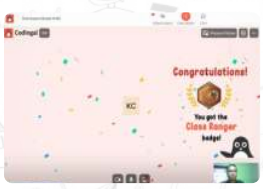
Understand concepts faster with personal attention from teachers. Learn coding from highly qualified teachers trained to make learning effective and impactful.

7. Lifetime access to class videos

Forgot what was taught in the last class? No worries. Watch the recorded class video anytime to refresh your memory.

8. Lifetime access to resources

Get lifetime access to our exclusive learning content including DIY sheets, videos, and other resources.



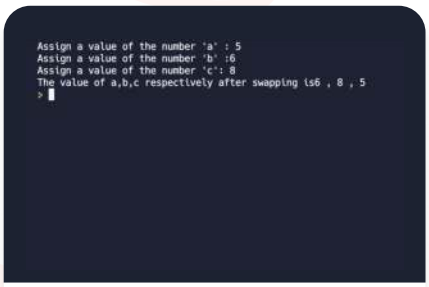
9. Gamified learning

Codingal makes learning fun with gamification. Students can take quizzes or complete projects to earn points, badges, and rewards.

10. After class projects

For each class, students have the opportunity to complete an after-class project, enabling them to apply what they've learned, test their skills, and receive valuable feedback from their teacher.

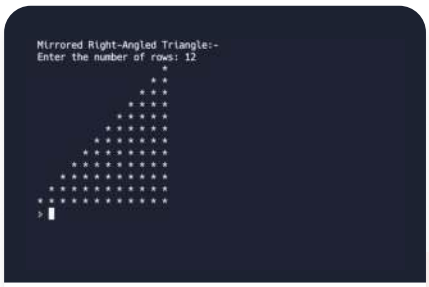
Innovative projects built by Codingal students



Triple number swap

Krishna Ajay Jeswani

View Project



Mirrored Triangle

Danish Piroozmand

View Project

Rock paper scissor

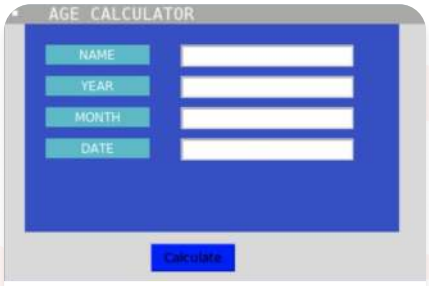
Piyush Kushwaha

View Project

Jumpy connections

Yashneil Tripathi

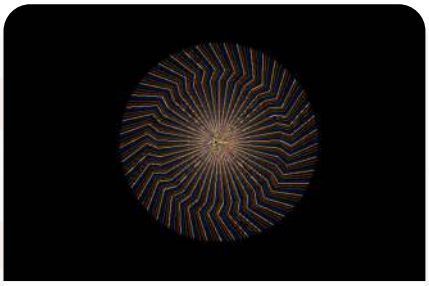
View Project



Age calculator

Rajan Yadav

View Project



Turtle spiral

Ruben Maxwell

View Project

Reduce, reuse and recycle

Aditya Kumar Gupta

View Project

Random password generator

Ganeev Singh Tuteja

View Project

AirQuality

Hussain Wangrelwala

View Project

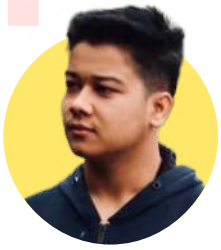
Visual Studio Code

Students and parents love Codingal

Razzaq Ahmed

Codingal Parent

I love the way teachers provide a fully personalized learning experience to prepare my child for a bright future.



Aaditya Khanal

Codingal Student

Codingal is an incredible platform for students looking to learn to code. It has helped me become an accomplished coder by making the learning process fun and interactive.

Nishika Parikh

Codingal Student

I like that I can customize and pace my learning journey according to my comfort with Codingal.

J.D sharma

Codingal Parent

The teachers at Codingal are highly qualified and patient. The curriculum at is thoughtful. Thank you Codingal for making my kid learn to code interactively.

Coding- Gateway to success in the future

Now is a great time to be entering the coding world because technology will change more in the next 10 years than it has in the last 50.

- Bill Gates

Whether you want to uncover the secrets of the universe, or you just want to pursue a career in the 21st century, basic computer programming is an essential skill to learn."

- Stephen Hawking

Begin your kid's AI & coding journey

Is your child ready for the future?

Start their AI & coding journey
with Codingal today.

Thank You

Built by alumni of

Google amazon

IIT Roorkee IIT Dhanbad

In partnership with

IIT Bombay IIT Guwahati

Hewlett Packard Enterprise BITS Pilani

Accredited by STEM.org

STEM.org ACCREDITED

Backed by

Y Combinator REBRIGHT PARTNERS

Got questions? Contact us anytime.

Send us a message

support@codingal.com

Codingal
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