

K-12 Computational Thinking Program



<http://www.cs.iastate.edu>

Computational thinking is a critical thinking skill that, according to some, is a required skill for success in the 21st century! Many students are only trained to become users of a computer, rather than developers. We think everyone should know how to make the computer work for you!

The key goal of the K-12 Computational Thinking Program is to encourage educators and students to adopt the practice of computational thinking through the development of computational models. Students develop a mindset that computational thinking and computational modeling are tools for solving problems and developing models of

STEM concepts. Increasing the computer literacy of the K-12 students in Iowa requires them to move beyond just being a computer user. To encourage them to engage in computer program development, students and teachers will be introduced to the Scratch™ programming language (freely available from Scratch™ .mit.edu) as an easy to use, yet powerful way of applying computational modeling.

By developing programming skills, more students will likely find interest in computing careers.

Computational Thinking Competition April 16, 2016

The ISU Computational Thinking Competition seeks to introduce K-12 students to problem solving with computational thinking in the context of their current coursework in Iowa schools. Student projects are in the form of computational models that help students to understand a problem, understand all of the requirements for a solution, be able to test their solution, and demonstrate the solution.

Computational Thinking for K-12 Teachers

Modeling has become a requirement in the new Iowa Curriculum. Do you know how you are going to implement this in your classroom? Scratch is the answer! In addition to the workshops and competition for students, the ISU Computer Science Department also offers summer K-12 Teacher Certification Classes, family/student programming nights (in your school or library), and K-12 Teacher Inservice training sessions. Contact us if you have questions, or are interested in learning more about introducing computational thinking to your students.



Above: Winners from the 2015 CTC

Fall 2015 - Spring 2016

Workshop Dates:
Oct. 17, Nov. 7, Jan. 16,
Feb. 6 and Mar. 5

Students, teachers and parents interested in learning more about computational thinking, or preparing for the CTC can attend one of our CTC workshops, held on the ISU campus, in Pearson Hall on Saturday morning from 9:00a.m. -12:30p.m. covering computational thinking process, program design and scratch.

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IOWA STATE UNIVERSITY
Department of Computer Science
ALL SCIENCE IS COMPUTER SCIENCE

226 Atanasoff Hall
Ames, IA 50011
Email us at: allscience@iastate.edu
515-294-6516