CS 10K

- Part of STEM + Computing Partnerships (STEM+C), NSF 15-537
- CS 10K awards aim to develop the knowledge and evidence-based foundation needed to support the teaching of introductory rigorous, academic computing courses in high schools.
Job Openings 2012-2022

- Computer Occupations: 57%
- Engineers: 25%
- Life Scientists: 5%
- Physical Scientists: 5%
- Social Scientists: 5%
- Mathematicians: 3%

http://www.bls.gov/emp/ep_table_102.htm
CS 10K

- NSF initiative to get computer science into 10 thousand high schools nationwide.
- Focus on in-service professional development of existing teachers.
- Approximately 20 active NSF funded projects
- Coordination with non-profits
Broadening Participation

Attention to diversity. To ensure that advances in computing education are inclusive of our diverse student populations, all proposals must address, as a significant component, the longstanding underrepresentation in computing of women, persons with disabilities, African Americans, Hispanics, Native Americans, and indigenous peoples.
AccessCS10K Goal

• Increase the participation and success of students with disabilities in
  – Exploring Computer Science (ECS)
  – Computer Science Principles (CSP)
AccessCS10K Strategies

• Work with NSF-funded CS 10K projects and non-profits
  – Capacity building institutes
  – Community of practice
  – Partnerships

• Create and disseminate accessible tools and curricula.
  – Leverage work by development partners
Screen Reader

- Allows non-visual access to screens
Block Based Languages

when space key pressed
repeat pick random 10 to 50
  turn 90 degrees
  switch to costume pick random 1 to 6
  wait 0.1 secs
  point in direction 90
stop script
Quorum Programming Language

- Text, not blocks
- Evidence based syntax and semantics
- Example

repeat 5 times
  say “hello”
end

- http://quorumlanguage.com/
Quorum Hour of Code

Tutorials in other programming languages

Accessible programming (with screenreader support)

Quorum

This tutorial is accessible for the visually-impaired, and works with screenreaders. Join Mary on a tour as she joins a biology lab as a programmer and learns the Quorum programming language. This tutorial is student-guided with online example activities.

Middle school + | Modern web browsers.
Screen-readers supported

11,109 participants

http://hourofcode.com/qrm

Go
My Message

Computing fields need more people with disabilities because their perspectives and expertise will spark innovation.
Assistive Technologies for Learning: Broadening Participation in STEM

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