WHY LEARN TO CODE?

BY FRANCES ROBERTS

There is a huge push in the educational world to get students to learn to code. Why?

Coding is the way to tell a computer how to perform complex tasks. The best part of learning to code is that you then have this powerful new ability to create virtual worlds within the computer. This comes down to a perfect blend of technological prowess and imagination.

But, at a more fundamental level, the reason is that software is becoming a critical layer within all our lives. Think about it. Your telephone calls go over software-controlled networks; your tv is delivered over the internet; we rely now on the web for directions instead of printed maps; and, we are shopping more and more online. There's no going back. In the future, our homes will be controlled by software. Our medical care will, at least in part, be delivered over the web. Our cars might even drive themselves.
Software then is becoming a critical language in this world, and it's vital that every child learn it. Is this so that every child can be a software engineer? No, not every job will involve programming. What is important, though, is that the young people of today learn computational thinking, which is a combination of mathematics, logic, and algorithms, and includes a new way of thinking about the world.

Computational thinking involves breaking down large problems into a series of smaller, more manageable problems. It means solving problems, designing systems, and understanding human behavior by drawing on the concepts fundamental to computer science. It uses ideas such as problem decomposition, data representation, and modeling, as well as binary search, recursion, and parallelization.

Learning to code will inevitably lead to computational thinking, a skill everyone should have in this new day and age. By the middle of the 21st Century, computational thinking might be considered a skill as necessary as reading, writing and arithmetic. This is because computational thinking is what comes before any computational technology. It's what is thought of by a human - knowing full well the power of automation. This kind of computational approach is already being applied in fields as diverse as mechanical engineering, fluid mechanics, physics, biology, astronomy, archeology, education, history, music, business and more.

It's not any wonder then that the learn-to-code movement is underway.

**SOURCES:**

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