Why Teach Programming when AI can code?

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Most computer science classrooms around the world raise the same question, and educators must now face it; why should we teach programming when AI can code? If an artificial intelligence tool can write correct code from a simple problem description in seconds, what exactly are we training students to do? This is a real challenge for curricula designers.

Teaching programming has always meant teaching the rules of a language. Students had to memorize syntax and be assessed on whether their code ran correctly. The focus has always been that the hardest part of the problem was writing correct code, but the world is changing and that is no longer what makes programming difficult.

In today's world, AI tools are becoming very reliable in handling the syntactic layer of programming. However, the thinking task before coding remains a real programmer's task. Deciding which problem actually needs to be solved, breaking it down into smaller ones, and recognizing all possible scenarios need a human brain even if it can be simulated by an AI tool.

There's strong evidence from research conducted on AI in education which makes this problem a reality. Students are starting to use AI-generated

code; however, they fail to understand or explain it. This is the real risk that educators need to understand and acknowledge, programmers will stop thinking computationally and logically even though they submit correct code.

In addition, programming is no longer restricted to the field of computer science and software engineering. Computing skills are slowly growing to be a general skill for all professionals such as a teacher who automates grading exams or a financial analysist who creates recommendations based on data models. This forces the real change in teaching programming and shifts its focus from syntax to reasoning.

We raise this question to handle the issue urgently, before curricula designed for programmers today fails them tomorrow.

Sources

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