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Discrete Optimization for school and university

I am finding that my colleagues in the life-, social, and computer-sciences are less interested in calculus and gravitate more towards discrete processes and patterns in data. This is even reflected in the redesign of their majors—how much and exactly what math to require. That's an interesting trend which should ultimately have significant consequences for the types of problems we work with in both school and teacher education. The good news is that these topics (data-driven investigations, recursive thinking, pattern recognition) are more hands-on, more fun to work with, and support play and mathematical thinking much better than curricula whose sole purpose seems to be to prepare kids for university calculus. I will give a couple of examples.