The Beauty and Joy of Computing (BJC)
An introductory computer science curriculum developed at the University of California, Berkeley, intended for non-computer science majors and computer science and informatics majors with no programming experience.
Computing has changed the world in profound ways. It has opened up wonderful new ways for people to connect, design, research, play, create, and express themselves. However, just using a computer is only a small part of the picture. The real transformative and empowering experience comes when one learns how to program the computer, to translate ideas into code. This course will teach students how to do exactly that, using Snap! (based on Scratch), one of the friendliest programming languages ever invented. It's purely graphical, which means programming involves simply dragging blocks around, and building bigger blocks out of smaller blocks. But this course is far more than just learning to program. We'll focus on some of the "Big Ideas" of computing, such as abstraction, design, recursion, concurrency, simulations, and the limits of computation. We'll show some beautiful applications of computing that have changed the world, talk about the history of computing, and where it will go in the future. Throughout the course, relevance will be emphasized: relevance to the student and to society. The overarching theme is to expose students to the beauty and joy of computing. This course is designed for computing non-majors, although interested majors are certainly welcome to take the class as well! We are especially excited about bringing computing (through this course) to traditionally under-represented groups in computing, i.e., women and ethnic minorities.