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Robert J Rovetti* (rrovetti@lmu.edu), One LMU Drive, Los Angeles, CA 90045. *Help, my student doesn't want to code! Two biomath research projects that gently introduce programming concepts in a GUI-based modeling environment.*

Even as scientific computing assumes an ever larger role in modern research and applications in medicine and biology, today's college students are brought up in a world of point-and-click graphical user interfaces (GUIs) and multimedia experiences that bypass the need to understand the underlying software or hardware. Many biology majors, and even a sizeable number of math majors, seem either uninterested in, or afraid of, coding. Here I describe two undergraduate research projects based on GUI-oriented software that employs light to moderate amounts of very-high-level coding. The first is a model of pancreatic beta cells using a system of nonlinear ODEs implemented in Berkeley Madonna, which provides a variety of easy-to-use plotting modules while requiring the underlying equations and numerical integration conditions to be input in a code environment. The second is a cellular automata model of cardiac cells using NetLogo, an agent-based intuitive programming language that includes loops, conditional expressions, and subroutines, while still automating all graphical output. Both projects increased the students' interest and self-confidence in programming while providing a relevant biomathematics-based research experience. (Received September 25, 2012)