

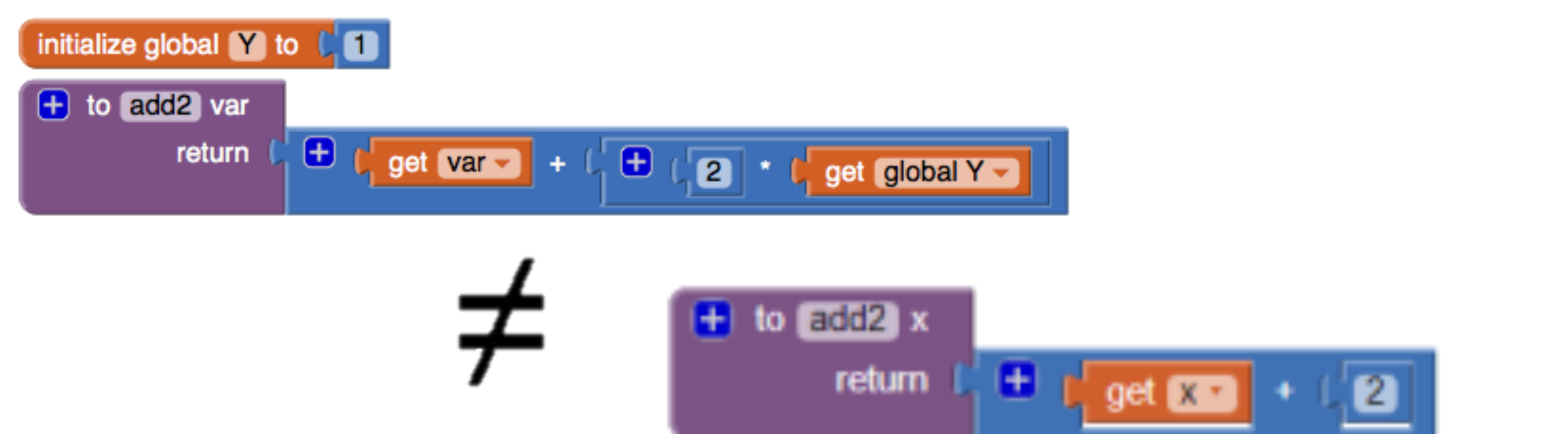
About Quizly

App Inventor's blocks lower the barriers to learning programming, but make traditional testing of students difficult. Quizly, developed by Ralph Morelli, allows teachers to create blocks-based quizzes with sample solutions and hints. The three categories of quizzes differ in how a student response is compared to the teacher's solution:


1. **Expression Evaluation** – the student's expression must evaluate to the same value as the solution
2. **Function Definition** – the student's function must return the same values as the solution on a specified set of inputs.
3. **Exact Block-for-Block Match**

Previous Limitations

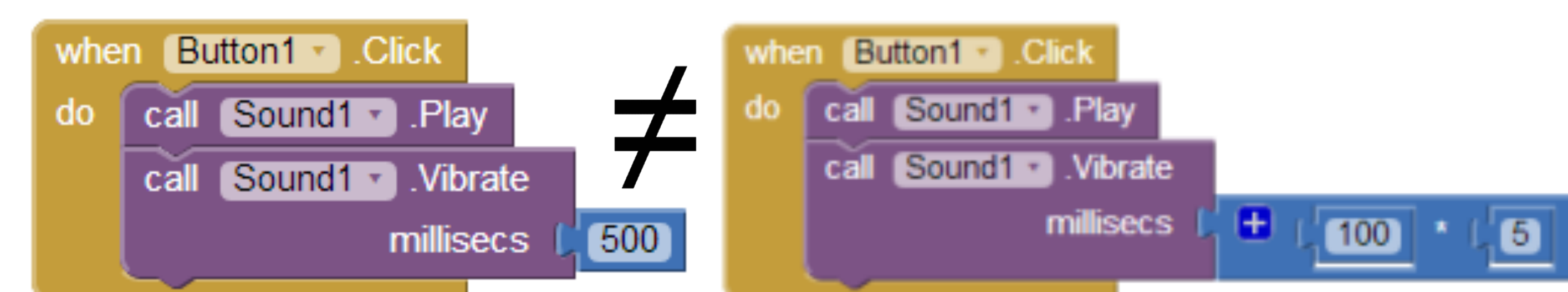
Function definition quizzes did not permit helper functions or global variables:



Procedures that modified global variables could not be tested:



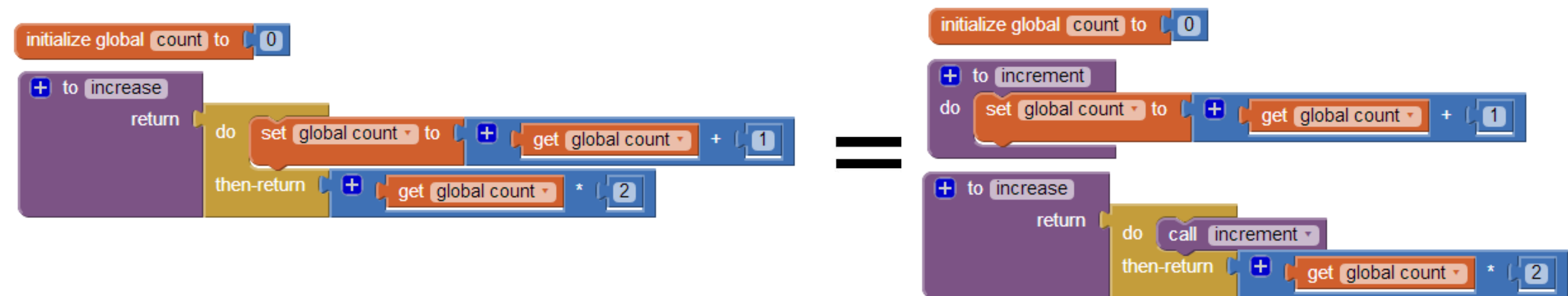
Student solutions to quizzes involving components had to match teacher solutions block for block:



Progress Made

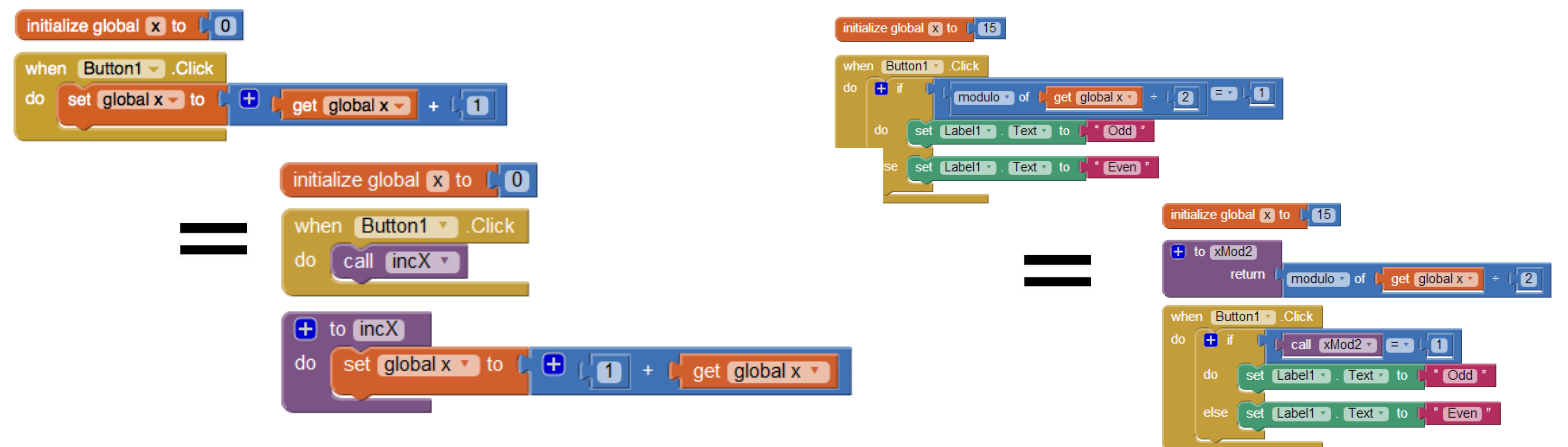
Handling of helper functions and global variables in function definitions:

The code for all top-level blocks in the workspace, not just for the function definition in question, is generated, and the results of calling the teacher and student functions on the teacher-provided sample inputs are compared. This permits the use of helper functions. Quizzes that involve modifying global variables are tested by comparing the values of certain global variables specified by the teacher after the teacher's and student's code has executed. The quiz creation interface was modified to allow specifying global variable values in test cases.



Basic Quizzes involving event handlers

Event handlers that modify global variables can now be tested. Some work has been done on Buttons, and Buttons that modify the text of a label can now be tested.



Future Work

More complex quizzes involving components:

