Practice Exercises for Interactive Applications

Solve each of the practice exercises below. Each problem includes three CodeSkulptor links: one for a template that you should use as a starting point for your solution, one to our solution to the exercise, and one to a tool that automatically checks your solution.

1. Given the program template below, write a Python function `print_goodbye()` that defines a local variable `message` whose value is `"Goodbye"` and prints the value of this local variable to the console. Note that the existing global variable `message` retains its original value `"Hello"` after the call to `print_goodbye()` completes. Print goodbye template --- Print goodbye solution --- Print goodbye (Checker)

2. Given the program template below, write a Python function `set_goodbye()` that updates a global variable `message` with the value `"Goodbye"` and prints the value of this global variable to the console. Note that the existing global variable `message` has its original value `"Hello"` modified to `"Goodbye"` during the call to `set_goodbye()`. Set goodbye template --- Set goodbye solution --- Set goodbye (Checker)

3. **Challenge:** Given the program template below, implement four functions that manipulate a global variable `count` as follows. The function `reset()` sets the value of `count` to be zero, the function `increment()` adds one to `count`, the function `decrement()` subtracts one from `count`, and the function `print_count()` that prints the value of count to the console. Count operations template --- Count operations solution --- Count operations (Checker)

4. Complete the program template below so that the resulting CodeSkulptor program opens a frame of size 100×200 with the title `"My first frame"`. You will need to add only two extra lines of code. Two extra lines template --- Two extra lines solution --- Two extra lines (Checker)

5. Given the program template below, modify the program to create a CodeSkulptor frame that opens a 200×100 pixel frame with the title `"My second frame"`. Remember to use the Docs to determine the correct syntax for the necessary SimpleGUI calls. Open frame template --- Open frame solution --- Open frame (Checker)

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