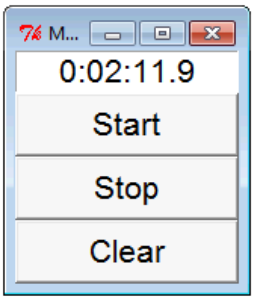
HW10-Stopwatch Class

10 points

Assignment: Write a class that implements a stopwatch.

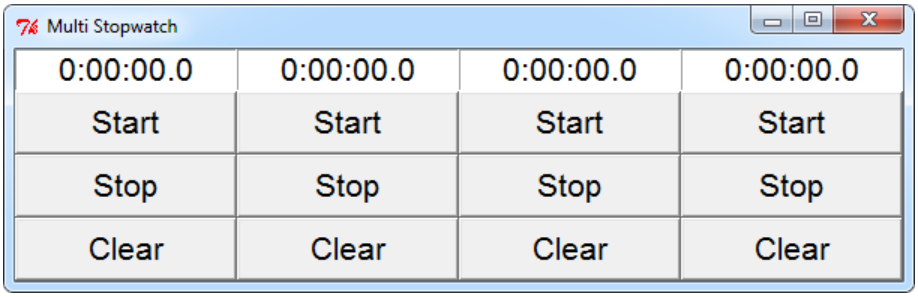


Due: Friday November 15, 5PM

Turn In: Submit your sources to BBV.

The purpose of this assignment is to practice writing a *class*. Your class should have at least the functions `start`, `stop`, and `clear` (called by the corresponding buttons), in addition to `__init__` and `__str__`, plus any helper functions you wish.

I'll provide a Python test program called "Stopwatch gui.py", which you should read. Actually, this program will make four independent instances of your Stopwatch class, like this:



But of course, your class won't need to know how many instances are being created or even that more than one instance is created.

The Start button should start a *thread*, so that the gui can respond to the other buttons (like stop!) while the stopwatch is running.

Techniques for formatting the hours, minutes, and seconds as shown above will be discussed in class, and are summarized at:

http://docs.python.org/2/library/stdtypes.html#string-formatting-operations

Challenges:
The stopwatch class probably won't be very long (mine is about 50 lines), but there are two items that will require some thought. One is: how will you get the thread to stop?

Another is: how do you get the time to be correct even if you stop the stopwatch and start it again? Suppose you start the stopwatch, wait 5 seconds, and stop it. Then you wait 5 seconds, start it again, and stop it after 5 more seconds. The display should show 10 seconds, not 15. That is, the stop button should suspend the time accumulation somehow, not just freeze the display.