

SystemC & Behavior Coding

Assignment 6 Bonus, 2025-12-04

Abstract

Modify the timer module of Assignment 5, by keep using `SC_THREAD` with the same `sc_main` and make the waveform the same as in Assignment 6. No penalties should you not to do this bonus assignment.

Please read carefully. All outputs required are described in the text. Ten (10) points will be taken for each bug, missing the required output and behavior.

The 'timer' module

Description

1. Copy exactly the timer module on pages 39 and 40 of the Lecture Notes, Chapter 4.
2. Modify the `timer.h` and `timer.cpp` with following restrictions:
 - a. Keep using `SC_THREAD`
 - b. Need to change both `timer.h` and `timer.cpp`
 - c. No so-called reset behavior is allowed in `SC_CTOR`
 - d. Keep using exactly the same `sc_main` without any modifications
 - e. Make the waveform the same as in the Assignment 6.
 - f. The implementation needs to be in its cleanest way, i.e. all statements are necessary to achieve above spec and restrictions.

Note

1. You can try using `reset_signal_is()`. However, keep in mind the restriction 2.f above.
2. Still can ask GAI for help, however, beware of highly likely bugs.

Please submit the source code and `Makefile` only. Do not turn in the executable and waveform. **The deadline of this assignment will not be extended.**

Due date

3:00 PM, December 11th, 2025

Score weight (bonus towards the final grade) 3%