Hardware/Software Codesign SystemC Exercise One   (Due Oct 31, 2013)

Try to become familiar with SystemC (You can obtain the source code and documents from http://www.systemc.org) with a small SystemC example design: The design consists of an EXOR gate implemented with four NAND gates, as shown in Fig. 1.
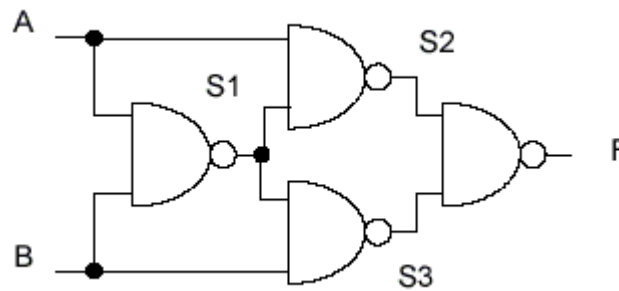

Fig. 1. EXOR Gate Diagram.

The first step was to model the NAND gate. A NAND gate is a combinational circuit; which output is purely a function of the values at the input. It has no memory and requires no clock. Because of this, the model can use the simplest kind of SystemC process, an SC_METHOD.

The above SystemC EXOR example can be downloaded from the web-page of http://www.doulos.com/knowhow/systemc/tutorial/modules_and_processes/

After compiling and running the SystemC program, you may obtain a vcd file for the output waveform traces of this SystemC EXOR program, then, try to have it plotted as shown in Fig. 2.
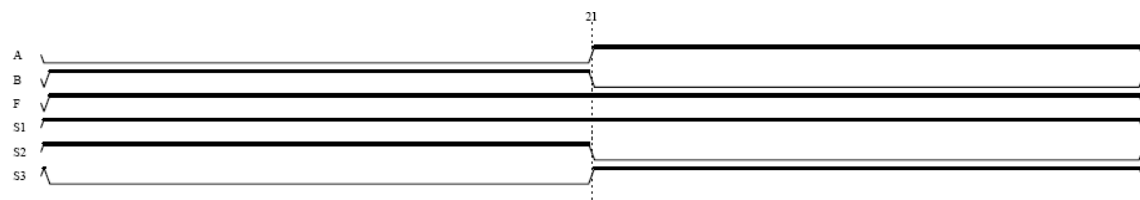

Fig. 2. Output Traces of the EXOR-2 SystemC Program.

Hard-Copy of EX. 1 should be handed in to Rm. BL-407, and its E-version sent to TA: 何孟宣（r01943090@ntu.edu.tw）