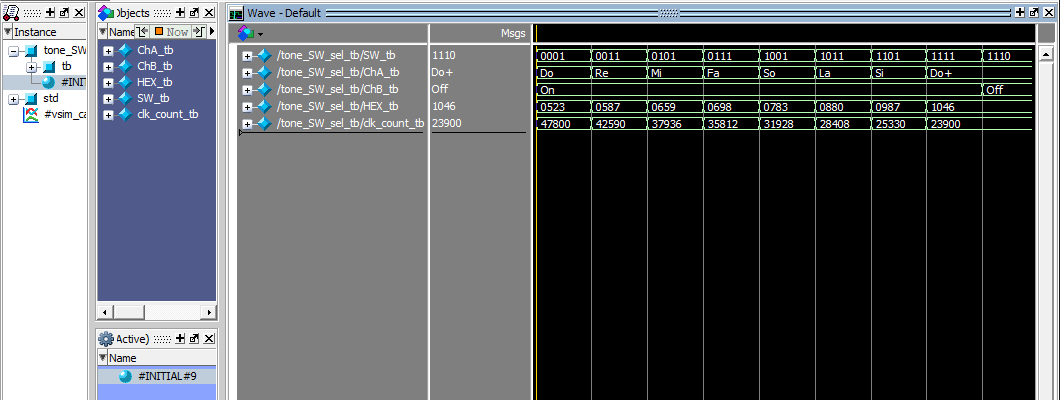
The SOF file named “Basic\_Organ\_Solution.sof” is located in directory “\*/rtl/ Basic\_Organ\_Solution.sof”

**State of the Lab:** Finished. Everything is functioning as expected **except** the bonus part.

**Simulations:**

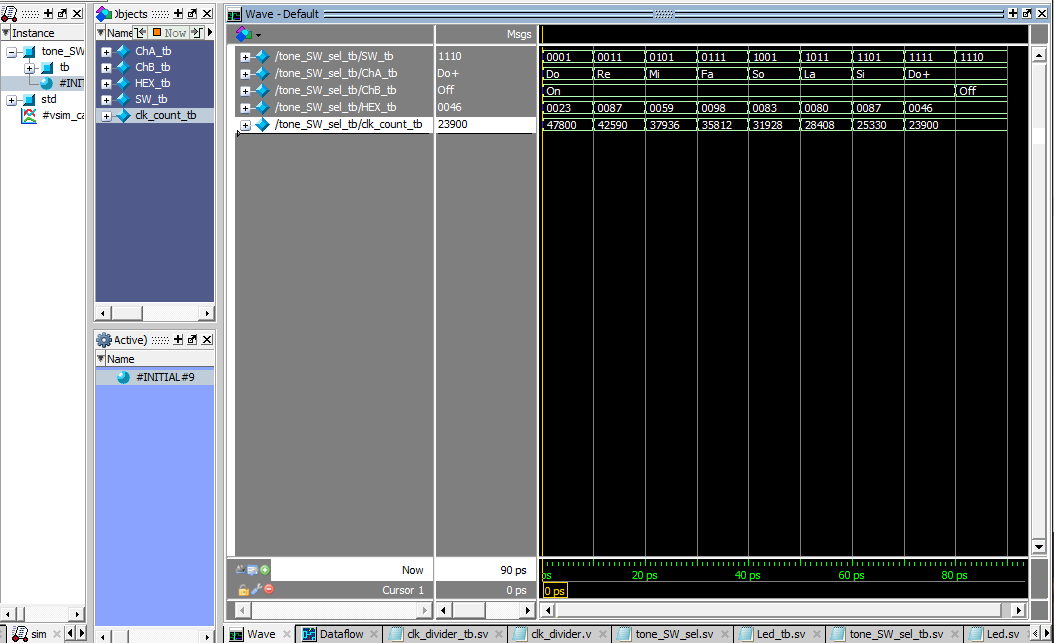
Operation & explanation of the simulation is written in the comment of every testbench code.

For LED controller:



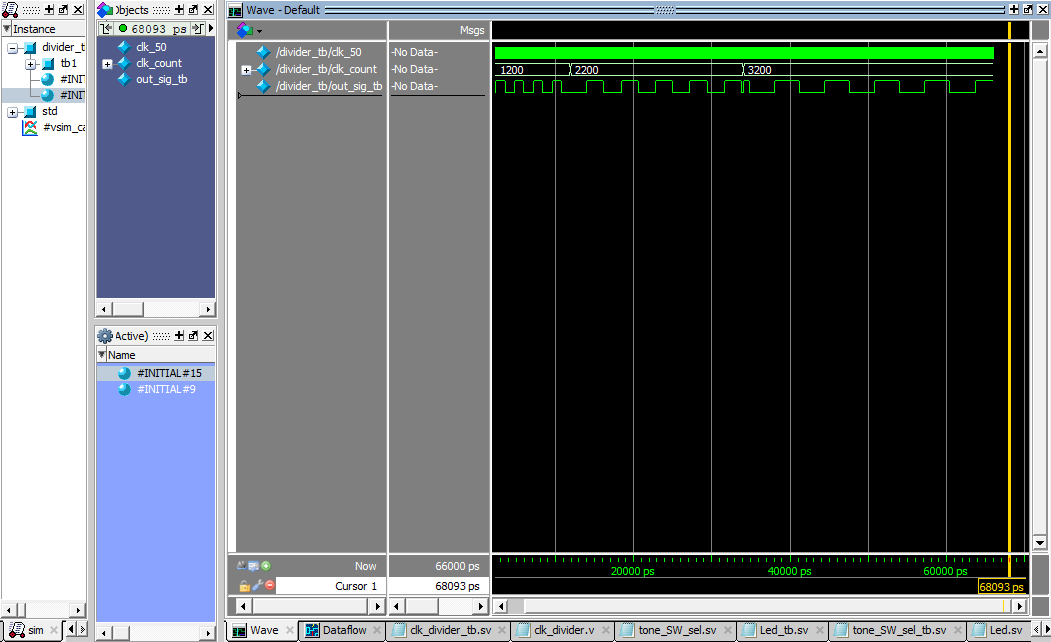
File "\*/rtl/Led.sv" is the Led controller, and "\*/rtl/Led\_tb.sv" is its testbench

For tone/character selector:



File "\*/rtl/tone\_sel.sv" orresponds to the tone organ module, and "\*/rtl/tone\_sel\_tb.sv" is its testbench. The actual code is implemented in the "Basic\_Organ\_Solution.v"

For clk\_divider:



File "\*/rtl/clk\_divider.v" is the frequency divider, and "\*/rtl/clk\_divider\_tb.sv" is its testbench

There are wave format file “\*/sim/Sel.do ”, “\*/sim/Led.do” and “\*/sim/clk\_divider.do” respectively.