

Lab 0: FPGA Tutorial and Test-Your-Own-FPGA Demo

Submission Due Dates:

Report: 2022/10/01 23:59

Objective

1. Going through the Vivado tutorial for FPGA implementation.
2. Testing the Basys 3 FPGA board.

Action Items

1 Vivado Tutorial with Rock-Paper-Scissors Game Demo

Follow **Lecture 03 Vivado Tutorial for FPGA Implementation** with the source files in [lab0_src.zip](#).

2 FPGA Board Test with Test-Your-Own-FPGA Demo

Follow **Lecture 03 Vivado Tutorial for FPGA Implementation**. Program the FPGA with [test.bit](#) to test the FPGA board: <https://youtu.be/My14m1lGa24>

- a. Find the board number on the backside.
- b. Check if the Power LED works.
- c. Check if the Program LED works.
- d. Check if the LEDs (LD15-LD0) and slide switches (SW15-SW0) work well.
- e. Check if the 7-segment display works well.
- f. Check if the pushbuttons (BTNU, BTND, BTNL, BTNR, BTNC) work well.
- g. Complete the checklist in "[lab0_report_template_v1.docx](#)".
- h. Confirm with TA whether if all components function well during the lab demo.
- i. Submit the checklist as your Lab 0 report.

Attention

- ✓ Hand in your report as **lab0_report_StudentID.pdf** (i.e., lab0_report_111456789.pdf).
- ✓ You do not need to upload any source code in Lab 0.
- ✓ **Note: If you fail to complete Lab 0, you will get a zero score for all the lab assignments.**
- ✓ **Note: Test the FPGA board on 9/26. Report to TA immediately if there is any problem!**