

VL505 Lab Midterm Set B

Total: 40 marks

Duration: 1.5 hours

Objective:

We have provided a code to blink an LED, written in Verilog. Understand the code provided.

To Do:

1. Fill in the initial block in the code.
2. Write a testbench. Test the code in simulation and make sure it works
3. Map the output to an LED on the FPGA. Observe the LED blinking. You may need to modify the code to observe the LED blink – every second. The LED should turn on and off after a gap of nearly one second
4. Now, modify the code to blink 3 LEDs such that it follows the following blinking sequence
 1. LED1 --> LED2 --> LED3
 2. The sequence continues till a reset switch is made high.
Demo this to the TA: **Demo 1- 20 marks**
5. Create a counter that keeps track of the number of times all the LEDs blink. Store the final count (until reset is made high) and display this on the 7-segment display- **Demo 2 - 20 marks**

What to upload:

1. Completed codes, xdc file – with your names in the first few lines of the code
2. Demo to the TA the result during the exam
- 3, If you are unable to get the output, take a screenshot of the error you get, upload it along with the code
4. No need to upload photo of the blinking LED.