Nem Negash

CMPE 415

Prof. Mohsenin

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Homework 1 Report

Statement of Project Completion

My project is working as desired in the homework description. I was able to download Vivado 2019.2 and use the given code to implement it onto the FPGA board. The given file and the one I made after making changes both function correctly on the FPGA board.

Process of Completion

There were two files given for this homework. The first file was a constraint file called **timing.xdc** which contained the mapping of the switches and push buttons on the FPGA board. The second file was the Verilog file called **blinky.v** which contained the code used to implement the binary blinking on the FPGA board. First the **timing.xdc** had to be manipulated so that the push button rather than the switch is used to control the blinking. The pin for the push button was N17 and the line that mapped the pin to the button had to be uncommented. Next, the **binky.v** file had to be tweaked so the dependency of the LED lights was on the push button rather than the switch. In the else statement the if statement with the ‘start’ parameter had to be changed to have ‘inc\_freq’ as the dependency. The next problem was having to press the push button for too long before the LED lights switched. This was fixed by changing the index for the parameter ‘counter\_internal’ in the if statement from 27 to 24. After these changes the LED lights switched at a more manageable push time than before as desired.