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Project 3 Report

The main purpose of this project is to create a bounce after a switch is pushed. This will create circuitry that detects when physical switch is released to allow us to use a single clock wide signal. The first module is the Pulse Generator. This module has three variables, which are clock, reset, and pulse out. Clock and reset are inputs, while pulse out is an output. When reset is 1 on a positive edge of the clock, pulse out will equal 0. When reset is equal to 0, on every positive edge of the clock will add 1 bit to pulse out. The pulse out output will pass into the shift register. The shift register module has five variables, which are clock, reset, push, pulse out, and Q. Clock, reset, pulse out, and push are inputs, while Q is an output. The purpose of this module is to shift the values and pass them to the detectPosEdge module. DetectPosEdge module detects the press of the button from the user and passes the Q value from the shift register. The counter32 module counts and creates a one clock signal which I used. The counted value is passed along to rotator which uses that value pass it along to the barrelshifter module. The mux8to1 module passes hex values to the hexToSevenSeg module, which displays the values to the LEDs on the board. This project allowed me to understand how to use clock as a signal and how to display values using the LEDs.

Top Level Diagram: 







