COL215- DIGITAL LOGIC & SYSTEM DESIGN LAB REPORT-5

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Objective- To build a stopwatch using Modulo 6 and 10 counters and display from lab 4.

Design- First, Modulo 10 and Modulo 6 counters are designed in separate files and their components are imported into the final design. The frequency provided to us is 100MHz and we converted it to 10 Hz using 7 modulo 10 counters. For each modulo 10 counter, the negation of the MSB is input into the clock of the next counter. Once 10Hz frequency is obtained, this is fed into two consecutive modulo 10 counters, which act as the count for 1/10th and unit seconds respectively. The negation of the MSB is fed into a modulo 6 counter which gives the tens place of seconds. The second MSB of this counter is fed into the clock of the next modulo 10 counter which gives the minutes. The outputs of each of these four modulo counters are given into the component created from lab4.

Limitations- The stopwatch can count only upto 10 minutes.