Homework 5 Z4

Outline Chapter Z6

This homework is another exercise set for Chapter 4 methods. Create a solution for both of the problems below. Please create RIBS diagram and a text printout to submit using paperless methods for each problem.

1. Create a RIBS simulation that repeatedly blinks an LED on for 800 ms and off for 200 ms. Capture the behavior as a synchSM. Use a timer period of 100 ms for TimerISR. Create for-loop style processing using states for the LEDon and LEDoff states.

2. A festive light display controls 8 light bulbs (B7-B0). A0 activates the system. A1 chooses a mode. When A1=0, the lights blink all-on and all-off 1 second each. When A1=1, the lights move each second giving the illusion of a ball bouncing back and forth: 10000000, 01000000, …., 00000001, 00000010, …, 1000000, repeat. Use bit manipulation methods for the bouncing ball mode, rather than separate states for different output combinations.

Hint: Use transitions for bit manipulation states. Bit manipulation initialization actions can take place on entry transitions.