HomeWork4 Z4

No outline required

Exercises

1. A baby monitor system detects motion using a sensor (A0=1). The system should sound an alarm (B0=1) if no motion is detected for at least 90 seconds. A button (A1) or detected motion resets the system.

2. Create a festive lights display with 8 light bulbs (B7-B0). When activated (A0=1), the appearance is of two balls bouncing off each other, as follows: 10000001, 01000010, 00100100, 00011000, 00100100, 01000010, 10000001, repeat. Each output configuration lasts for one second. Use bit-manipulation methods (and, or, complement) rather than numeric values. When deactivated, the display turns off all bulbs within 3 seconds.

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