**Oakland University**

**School of Electrical & Computer Engineering**

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**ECE 4721/5721**

**Embedded System Design**

**Lab #3**

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This experiment was to control a seven-segment display using the KL25Z by outputting a number on the display equal to the binary representation of four input switches. The decimal point was also to be displayed through each state. When a number greater than nine is entered to the switches, no number is displayed. This required the KL25Z, a seven-segment display, four switches and lots of wires to connect the required components. The switches were connected to port B, pins 8, 9, 10 and 11. The seven-segment display was connected on port E to pins 2, 4, 5, 20, 21, 22, 23 and 29. The switches produce a binary interpretation of the input, which is converted to decimal and output to the seven-segment display. The source code for this is provided in the zip file under the SevenSegmentDisplay folder and the video demo is available in the main lab3 folder entitled Lab\_3\_Demo. This demo shows the transition between all states and ends with inputting the number 10, which displays no value. Figure 1 below contains the flow diagram for the experiment and figure 2 shows the pinout configuration for the seven segment display used.

Diagram

Description automatically generated

Figure 1. Flow Diagram

Diagram

Description automatically generated

Figure 2. Full Setup