**Oakland University**

**School of Electrical & Computer Engineering**

**Winter 2023**

**ECE 4721/5721**

**Embedded System Design**

**Lab #1**

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Part 2:

This experiment was first to install Keil, initialize the IDE, and run it with the provided example project: Blinky. The project required the use of the KL25Z development board and no supplemental boards. This code cycles between 3 states; Red LED, Green LED, and Blue LED. Between each of these states was a delay period where the LED was off. The values of each LED are shown below in figures 1-3. The source code for this is provided in the zip file under the Blinky folder.

Graphical user interface, application, table

Description automatically generated

Figure 1. Red LED Value

Graphical user interface, table

Description automatically generated

Figure 2. Green LED Value

Graphical user interface, application, table

Description automatically generated

Figure 3. Blue LED Value

Part 3:

This experiment was first to create a new project that implemented a counter. The project required the use of the KL25Z development board and no supplemental boards. This code increments a counter value until it is greater than 15, at which point it resets the value to 0. The value of the counter after 4 iterations is shown below in figure 4, and figure 5 shows the flow diagram for this program. The source code for this is provided in the zip file under the Counter folder (the name of the project file is Lab1).

Graphical user interface

Description automatically generated

Figure 4. Counter Value after 4 iterations

Diagram

Description automatically generated

Figure 5. Flow Diagram