

# **Principles of Embedded Software**

## **Project – 2**

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### **Documentation**

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The project consists of a C code with four versions - two running on the NXP freedom board KL25Z and two running on the computer - FB\_Run, FB\_Debug, PC\_Run and PC\_Debug.

In the first part, we focus on the FB\_Run function i.e., we write a code to drive the multicolor LED through multiple timing cycles in lookup table on board and after every 3 on and off cycles the LED color will change.

In the second part, we focus on FB\_Debug function i.e., we send LED on or off status messages on the serial port and print the time for which the LED was on or off.

In the third part, we focus on PC\_Run function which runs on the PC. In this, we code to print output LED on or LED off instead of glowing LED On the board on the MCUXpresso depending on the timing cycles.

In the fourth part of the code, we focus on PC\_Debug that runs on the PC and prints the output of LED status along with a timing stamp.

#### **Installation and Execution notes:**

For the above project, we used Freedom Board KL25Z and MCUXpresso IDE v11. We used arm-gcc and gcc compiler for the two different platforms. Make files were manually generated on the same IDE.