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**Assignment -1**

Write a basic embedded-C program to get the LEDs to blink in the pattern shown in class (sequentially, Red, then Green, then Blue, with no color mixing).

MCUXpresso IDE helps users to create easy to use Eclipse based environment. It includes Arm Cortex-M cores, LPC and kinrtis microcontroller. It offers advanced compiling, debugging and editing features. It also provides code trace, debugging views, multicore debugging and integrated configuration tools.

**Features of MCUXpresso**

* It provides free toolchain to developers without any restriction on code or the size of debugging.
* It provides powerful interface with power measurement, profiling on supported boards, multicore capable debugger and many more.
* It provides complete C/C++ integrated development environment

**Advance project wizard:**

* Trace functionality
* Link Server Power Measurement
* MCUXpresso Configuration Tools

**Supported Debug Probes:**

There is built in support for three debug solutstions.

* Native LinkServer
* P&E Micro
* Segger J-Link

**LPC1769**

LPCXpresso is a new, cost effective development program provide by NXP which support NXP’s Arm-based microcontrollers. It is a good platform for embedded engineers where they can develop any applications from starting generation to ending product.

LPC1769 is a populated board having lots of in-built features that enables us to work it with ease.

* It has CORTEX-M3 Arm based micro-controller.
* Tricolor LED – Red, Green, and Blue.
* Reset and ISP boot mode buttons.
* For external debug probe, it has 10 pin SWD connector.
* Integrated CMSIS-DAP debug probe.
* Ethernet 10/100 PHY
* Memory- 64kB RAM, 512kB ROM
* 4 x 32-bit Timer

**Program – LED Blinking**

Mostly LPC1769 pins are multiplexed to support more than one function. Every pin has a minimum of one and maximum of four functions. Here, we perform a LED blinking program in which we have to blink LED’s sequentially Red, then Green, then Blue, with no color mixing.

In this program, we used LPC1769 user defined library. With the help of two integers k,j, we create a loop in which we used bunch of delays to turn on and off the led and to generate a gap between the LED’s.