Purpose
This lab is intended to introduce you to the programming environment, the debugger environment, and the logic analyzers. In order to do this with a minimal amount of Embedded System overhead, this is a simple lab.

Description
You will drive the General Purpose I/O pins of the M-CORE boards. The use of the GPIO is tersely described in Section 13 of the MMC2001 Reference Manual. Using the two other manuals, MMCCMB1200 User’s Manual and MMCPFB1200 User’s Manual, you can trace the outputs from the processor to the board pins. You will need pages 35 and 38, respectively.

Write code that creates a four-bit counter in the lowest four bits of the Edge Port Data Register (EPDR). Use a for() loop to create a pause between incrementing the counter. If you’re a gross over-achiever, you can use an interrupt, but I don’t think you’ll want to do that just yet.

Compile your code with the Diab make utility, dmake. Then, use the Debugger to download the code to the test board. Put breakpoints in your code so that you can test the output pins with a voltmeter to verify that they are indeed toggling.

Remove the breakpoints and let your code run at full speed. Capture the waveform with the logic analyzer. You will have to set up a trigger so that the analyzer knows when to start capturing data.

Requirements
A printout of the code, the waveform from the logic analyzer, and the TA’s signature.