

Assignment-2b: Writing an assembly language program for a small application

Hand-in Date: Friday, 3rd May 2013

Learning Outcome: This assignment helps you to develop your software programming skills in addition to reinforcing the hardware fundamentals you learnt in the lectures. You will demonstrate skills in using Assembler to program the PIC controller to function as per the specified application, debug using the MPLAB IDE and demonstrate using the LEDs mounted on the PIC Flash Starter Kit 1.

Objective: In this assignment, you will design and code an assembly language program for the PIC16F684 microcontroller chip so that the eight red LEDs on the PIC Flash Starter Kit 1 are switched ON/OFF in the following manner: The LEDs light up (turn ON) and then turn OFF, one at a time, starting from D7 onwards in the following order:

D7, D6, D5, D4, D3, D2, D1, D0, D7, D6,

Each LED should be ON for a period of approximately 0.5 second before turning OFF for the next 0.5 second so that they are clearly visible. Then the next LED in the sequence takes over.

Write the program, debug it and demonstrate its operation to your Lecturer/Demonstrator during your lab session in the week commencing 29th April 2013. Submit your report (including a concise and clear, well-commented assembly language program) through Turnitin link on BREO by 3rd May 2013. There is no need to submit printed copies for this assignment.

Remember that this is individual work; Plagiarisation is an academic offence and the penalty can be serious.