Tarefa 7 - **Memory Mapped Peripherals**

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**7.5.1 Displaying the hex digits in binary to the surface-mounted LEDs**

**Write ARM assembly to flash the hex digits in binary form to the surface-mounted LEDs in ascending order. Now slightly modify the code to flash the digits in descending order. Make sure to use a delay so that the digits can be seen. The digits should not stop flashing.**

**7.5.2 Displaying the contents of a memory location to the surface-mounted LEDs**

**Write ARM assembly to inspect memory location 0x4000.If the location contains a decimal number 0-15, display the contents in binary on the surface-mounted LEDs.If the location holds any other value, blank the display. As an example, if 0x4000contains 0xE, then turn on D1, D2, and D3, and turn off D4 to display b1110.**

**7.5.3 Displaying the contents of a memory location to the seven-segment display**

**Write ARM assembly to inspect memory location 0x4000. If the location contains a decimal number in the range 0-15, display the contents in hex on the seven-segment LED display. As an example, if 0x4000 contains 14, display an E.**

**7.5.4 Displaying the contents of an array of memory location to the seven-segment display**

**Write ARM assembly to inspect memory location 0x3000 to 0x300A. For each location that contains a decimal number in the range 0-15, display the contents in hex on the seven-segment display with long enough delays so that the display is easy to read.**

**7.5.5 Displaying the value of the DIP switches to the surface-mounted LEDs**

**Write ARM assembly to inspect DIP1 to DIP4, which act like four binary digits. Display the contents in binary on the surface-mounted LEDs. See Figure 2-10 of Evaluator-7T User Guide for bit assignments.**

**7.5.6 Displaying the value of the DIP switches to the surface-mounted LEDs continuously**

**Write an ARM assembly program to inspect DIP1 to DIP4 continuously, which act like four binary digits. Display the contents in binary continuously using the surface-mounted LEDs. The program must be stopped manually.**

**7.5.7 Storing the value of the DIP switches to a memory location**

**Write ARM assembly to inspect DIP1 to DIP4, which act like four binary digits. Store the contents in memory location 0x4000.**

**7.5.8 Displaying the value of the DIP switches to the seven-segment display**

**Write ARM assembly to inspect DIP1 to DIP4, which act like four binary digits. Display the hex digit to the seven-segment display.**

**7.5.9 Displaying the value of the DIP switches to the seven-segment display continuously**

**Write an ARM assembly program to continuously inspect DIP1 to DIP4, which act like four binary digits. Display the hex digit to the seven-segment display. The program must be stopped manually.**

**7.5.10 Displaying an array of memory locations by multiplexing**

**1.Write ARM assembly to inspect DIP1 to DIP4, which act as a multiplexor. The multiplexor determines access to an array of memory locations starting at 0x4000and ending at 0x400F. Continuously display the contents of the multiplexed memory location to the seven- segment display.**

**2.Now make slight modifications to the code so that the contents are displayed to the segment display and the surface-mounted LEDs.**

**7.5.11 Counting DIP switch state changes**

**Write ARM assembly to count the number of times DIP switch 4 changes state up to the hex digit F. Display the continuous count to the seven-segment display.**