Assignment number 9 for Computer Architecture

The assignment is to create a MIPS programs that the determines what the ECC code should be for a given number (an 8-bit byte). ECC Hamming codes are explained on pages 420-424 in your text. The codes you create are to work for 8-bit positive numbers as these are simpler to work with than larger numbers.

The program is to request the user to enter a byte of data (a positive integer in the range of 0 to 255 in decimal) and then create the 12-bit Hamming code as described in your text (see above). The program is to then output this (with an appropriate label) in hex.

Make certain that you have lots of comments in your code as this is in MIPS. Also make the code neat: line up the instruction columns, the register columns, and the comment fields (see page 134 in your text for a nice example).

For this assignment, turn in your code, a screenshot showing a working for a test case, and an observations file with comments about how much time you spent writing the program and what you learned doing so.

Make certain that you have your name and the assignment number at the top of your observations file as well as at the top of your code files.

This assignment is worth 30 points.

This program is due on November 25. As always, submit your assignment to the DropBox for the assignment on the class website.

Note that this is an individual assignment, you are not to work with someone on it. It is OK to ask for and to give some help for a problem within the assignment, but the work must be your own. Note that you may freely borrow code from any example programs that I have placed out on the class website.