Create a Verilog program for the Deo-Nano board which will create an ALU that has a 4-bit select function and operates on two 2-bit registers. It produces a 2-bit output plus a carry bit.

The 2-bit output should use the LED's on the Deo-Nano board. Use LED0 as the LSB and LED1 as the MSB. Use LED3 as the carry bit.

For this ALU you will have the following I/O connections.

A) One 2-bit input from the two pushbutton switches. These are labeled Key0 and Key1 on the board. Use Key1 as the LSB.

B) One 2-bit input from the GPIO pins. Choose any two GPIO pins.

C) One 4-bit input for the select lines from the GPIO pins. Choose any four GPIO pins.

D) Three on board LEDs for output. Use LED1 and LED0 as the outputs with LED1 being the LSB. Use LED3 as the carry out.

To connect the GPIO pins you will need to get six connector wires from Jeff in the stockroom so that you can make connections without soldering.

Turn in the following:

1. A cover sheet with your teams names, assignment number (Nano 2), and the date turned in.
2. A photo of your board and connections.
3. A complete commented Verilog code for your ALU design.
4. A list of operations which you performed on your board along with the results and an indication of whether or not the result was correct.