

Guessing Game

Design a two player guessing game. The game starts with the four digit seven segment display illuminated with "PL 1" indicating that player #1 should enter a number between 0x0000 and 0xFFFF. The number is entered as follows. Slider switches 3 through 0 should be used to enter the binary value to be displayed on a particular digit of the seven-segment display. Slider switch 3 corresponds to the most significant bit and slider switch 0 the least significant bit. When a momentary push button is pressed the number represented on the slider switches should be latched and displayed on the corresponding digit on the seven-segment display. After the number has been entered, player #1 should move switch 5 from the low position (player #1) to the high position (player #2). The seven segment displays are used to indicate this by displaying "PL 2". It is now player #2's turn. Player #2 repeatedly enters four digit numbers until he or she correctly guesses the number entered by player #1. The procedure for entering the four digit number is the same as it was for player #1. When the complete four digit number has been entered, switch 4 can be used to latch or register that value as a guess. Moving switch 4 from the low to the high position, and then back to the low position will latch the number. When an incorrect number is entered, the display should indicate if the guess was too high ("2 HI") or too low ("2 LO"). When the correct guess is entered the LEDs should blink in celebration, and the number of guesses required should be displayed on the seven segment display.