A circuit has three inputs and four outputs, as shown on the attached schematic. The three inputs, In_A, In_B, and In_C come from external switches. The four outputs, Out_0, Out_1, Out_2, and Out_3 drive LEDs. The definition of the circuit is as follows: When None of the switches are closed, the LED at Out_0 lights. When One of the switches is closed, the LED at Out_1 lights. When Two of the switches are closed, the LED at Out_2 lights, and when All of the switches are closed, the LED at Out_3 lights. One, and only one of the LEDs is lit at any given time.

Your problem is to design a circuit to generate the Out_2 signal.

Build a Truth Table for the signal Out_2, in terms of the input signals, In_A, In_B, and In_C.

Derive a logic equation that will perform the function in this truth table.
Name: ____________________________________

Sketch a logic circuit to implement this function.