| Architetture dei Sistemi di Elaborazione 02GOLOV [AA-LZ] Laboratory 8	Delivery date: Wednesday 18/12 Expected delivery of lab_08.zip must include: - zipped project folder of the exercise 1 - this lab track completed and converted to pdf format.

Solve the following problems by starting from the *sample_BUTTON_LED* project (open the file project from the uVision menu)

Exercise 1) Implement an 8-bit "signed counter" by using LANDTIGER board; the software permits to use buttons to update a counting value which could be either positive or negative, and the LEDs to show the current value. By first using emulation capabilities (later, move your firmware on the board), please implement the following functionalities:

- increment a variable every time the button Key1 is pressed,
- decrement when Key2 is pressed (in case, go to negative number)
- reset the count when INT0 is pressed

LEDs are showing the current count in a binary, 2's complement representation.
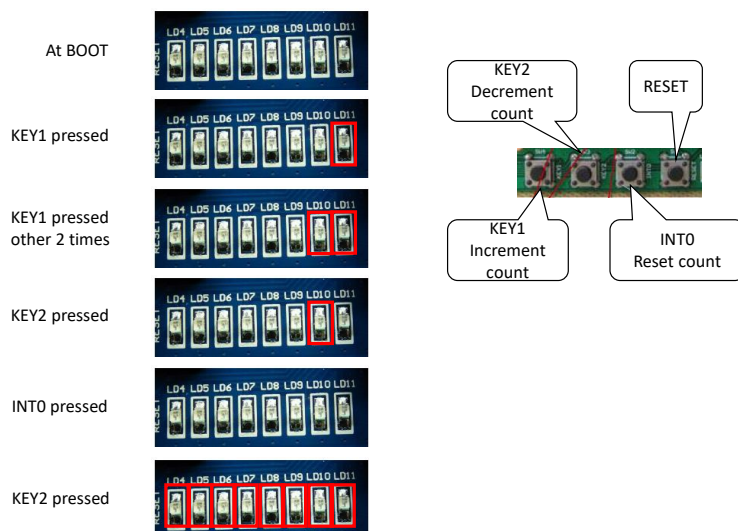
HINT: It could be useful to use a global variable in order to keep the information about turned ON LEDs. For example, using a variable called "`char led_value`", already available in the project.

Q1: Do you observe any unexpected behaviour on the board with respect to SW emulation? Please describe.

Si osserva che la simulazione software restituisce il risultato desiderato solo se si setta la frequenza a 12MHz, mentre la simulazione hardware funziona in modo migliore per frequenza più basse (ad esempio 1 MHz).

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