Laboratory Work 7

ASCII code implementation using Microcontroller

In this laboratory work microcontroller should check whether the entered ASCII value(s) in binary matches the predefined value or not. Requirements:

- Design a circuit with ATMEGA2561 microcontroller with three buttons and two LEDs
- The first button for sending 1 to the microcontroller
- The second button for sending 0 to the microcontroller
- The third button resets previous entered values
- If the entered ASCII value is correct, LEDs should blink 3 times with delay 200ms, otherwise LEDs should blink 2 times with delay 500ms

Example:

Let's consider that you have predefined letter "A" in your code: `#define LETTER_A 0b01000001`
To enter this value, you should start from the end of the binary. For instance, BTN1 for 1 and BTN2 for 0. Then your input should be:

```
BTN1, BTN0, BTN0, BTN0, BTN0, BTN0, BTN1, BTN0
 1     0     0     0     0     0     1     0
```

After this input LEDs should blink 3 times with delay 200ms.

Consider that the length of binary value is always 8.