PROJECT:
While maintaining the same functionality/operation as in the previous project, revise the program as follows.

- Trigger the input handler with an external interrupt signal, generated by a button press (rising edge.) “De-bounce” the switch in software, as needed, so that the program responds once and only once to any button press, no matter how short or how long a time the button is held down. (Consider incrementing a variable in the interrupt handler, so that you can determine how many times the handler has executed.)

- Change the output handler so that it is executed in response to the SVC (supervisor call) instruction.

In revising the program, separate the “application algorithm” from the “output handler” and “input handler” as much as possible, so that the handler functions primarily interact with the hardware (access GPIO pins), with higher-level programs calling the output handler only to turn selected LEDs on/off. The input handler should respond to button presses, and therefore might be set up to change the “state” of the application program.

As before, the program can be tested in RAM or in flash memory, but the final version is to be programmed into the flash memory of the microcontroller, so that the program can be demonstrated without being connected to the Keil debugger.

Print and submit the source programs, and also email them to me, and bring your programmed board to my office to demonstrate the program. Do not print “startup” code or other Keil/STM-provided driver files.