BLG212E - MICROPROCESSOR SYSTEMS
HOMEWORK-2

Assignment : 24/11/2022 Due Date : 15/12/2022 at 23:59

Write an Assembly program (using the EDU-CPU instruction set and Mikbil simulator) to do followings.

- In endless loop, program should read the switches from PORT.A of PIA (Switches port).
- While program is running, user will manage the LED application type to be performed, by manually turning the leftmost switch (SW7) ON or OFF.
- Program should check ONLY the SW7 switch. It should ignore other switches by filtering them.
- When program starts running first time, it should perform the APPLICATION1 (default application).
- If user turns the SW7 switch ON, then program should perform the APPLICATION2.
- User may change the performing application type during program running.
- In order to stop the program completely, user will click the STOP button of simulator.

 (Stop button)

LED APPLICATION TYPES

- Program should implement two LED application types that described below.
- For both application types, program should display LED sequences one step at-a-time, beginning from Step1.
- The **WAIT subroutine** should be called after displaying a LED sequence at each step.
- After the last step, program should go back to the Step1 again.

APPLICATION1 (DEFAULT APPLICATION)

Leftmost switch (SW7) is OFF.

STEP	LEDS
1	○○○○○○○○
2	●○○○○○○○
3	●●○○○○○○
4	●●●○○○○○
5	●●●●○○○○
6	●●●●●○○○
7	●●●●●●○○
8	●●●●●●●○
9	●●●●●●●●

APPLICATION2

Leftmost switch (SW7) is ON.

STEP	LEDS
1	○○○○○○○○
2	●●●●●●●●

WAIT SUBROUTINE

- Write a subroutine for the purpose of waiting times, and call it from the main program after each write operation to the PORT.B of PIA (LEDs port).
- The looping counter should count from 1 to $FFFF in the subroutine.