Laboratory 12: EEPROM and Sleep Instruction

Problem 25:

Open the program from the course webpage.

a. Explain what the program does.

b. Simulate the program in MPLAB. Check the values in the SFR and the EEPROM memory.

c. Modify the program such that the program

- writes the decimal number 25 to EEPROM address 0x00 and turns on pin `RB0` after success
- writes the decimal number 100 to EEPROM address 0x05 and turns on pin `RB1` after success
- reads the value from EEPROM address 0x10 and turns on pin `RB2` after success

Simulate the modified program and explain what you observe.

Problem 26:

a. Write a program that

- Turns on LEDs at `RB0`, `RB1`, `RB2` and `RB3`
- Goes to sleep
- Wakes up if an interrupt at `RB0/INT` (rising edge) happens, rotates `PORTA` left and goes to sleep again

b. Simulate your program in MPLAB. Use the stimulus to generate the external interrupt.

c. Simulate your program in Proteus.