USART Module

- **Exercise 5.1.** Write a program that waits for a datum from the PC and send it back to the PC by means of the RS232 communication, using the PIC16F876A USART. The value of this datum must be displayed in 8 LEDs connected to PORTB. The reception will be detected by using the USART reception interrupt. RS232 must be set as follows:

  19200 bauds
  8 data bits
  No parity
  1 stop bit
  No flow control

- **Exercise 5.2.** Modify exercise 4.1 in such a way that the microcontroller waits for a 2-data reception and then returns to the PC either '1' when the received data are "A1", '2' when it is "A2" or '0' when the received data are any other values.

- **Exercise 5.3.** Modify exercise 4.2 in such a way that the microcontroller returns to the PC either "LAB5_1" when the received data are "A1", "LAB5_2" when the received data are "A2", or "LAB5_er" when any other value. Additionally, after each transmitted string, the microcontroller will send the characters LF (Line Feed, decimal value 10) and CR (Carriage Return, decimal value 13). The program uses the USART transmitter interrupt to manage the transmission of the strings.