ECE 461/561 –   
Embedded System Design  
Serial Password Checker

# Overview

In this lab you develop and analyze C code which uses M16C serial communication peripheral to create a password checker. You will write code so that it checks passwords and accepts or rejects them.

# Requirements

Your board must accept and a series of text strings via the serial port with the following characteristics:

* Passwords are represented in ASCII sent to UART0 with a baud rate of 57600, 8 data bits, no parity bits, and one stop bit.
* Passwords are delimited by a start character of > and an end character of < which are not part of the password. Your code must ignore the incoming text until it gets a >, then save incoming text until getting a < (which is discarded and indicates the previous character is a password), at which point it checks the password and repeats the cycle. Assume no password is longer than 20 characters.
* A password is sent several times per second.
* If a valid password is received:
  + turn on the green LEDs
  + turn off the red LEDs
  + send an acceptance message (“!”) out UART0,
  + display the password and “Good” on the LCD .
* If an invalid password is received,
  + turn off the green LEDs
  + turn on the red LEDs
  + display the password and “Bad” on the LCD (on separate lines).
  + send a rejection message (“X”) out UART0
* The following passwords are valid: ItIsn’tMe, Don’tLetMeIn, PleaseOpen, Pizza.
* All other passwords are invalid.

It may be helpful to create a sample password sender program for use on another RDK to automate your development and testing process.