Protocol Design for Lab 10: Anthony Bloch

Note: all protocol begin with < and end with >

Protocol GUI to Microcontroller

* + LED
    - LED on -> a
      * Ex: <a>
    - LED off -> b
      * Ex: <b>
  + Timed Output
    - Enable -> c -> duration (decimal digits left to right)
      * Ex: <c12> (12 seconds duration)
    - Disable -> d
      * Ex: <d>
    - Status -> e
      * Ex: <e>
  + Periodic
    - Enable -> f -> duration (decimal digits left to right)
      * Ex: <f24> (24 pulses/second)
    - Disable -> g
      * Ex: <g>
  + Digital Input
    - Read -> h
      * Ex: <h>
  + Analog Input
    - Ch 1 -> i
      * Ex: <i>
    - Ch 2 -> j
      * Ex: <j>
    - Ch 3 -> k
      * Ex: <k>

Note: GUI will send ‘<’ and then wait for ‘!’ to be sent back from the PIC24 before sending the rest of the protocol

Protocol from Microcontroller to GUI

* + Timed Output
    - Status -> e -> status (either 0 or 1 for off or on)
      * Ex: <e0> (for off)
  + Digital Input
    - Read -> h -> value (either 0 or 1 for off or on)
      * Ex: <h1> (for on)
  + Analog Input
    - Ch 1 -> I -> value as string left to right
      * Ex: <i123>
    - Ch 2 -> j -> value as string left to right
      * Ex: <j243>
    - Ch 3 -> k -> value as string left to right
      * Ex: <k001>