Embedded Controller programing for Real Time Systems Assignment 2

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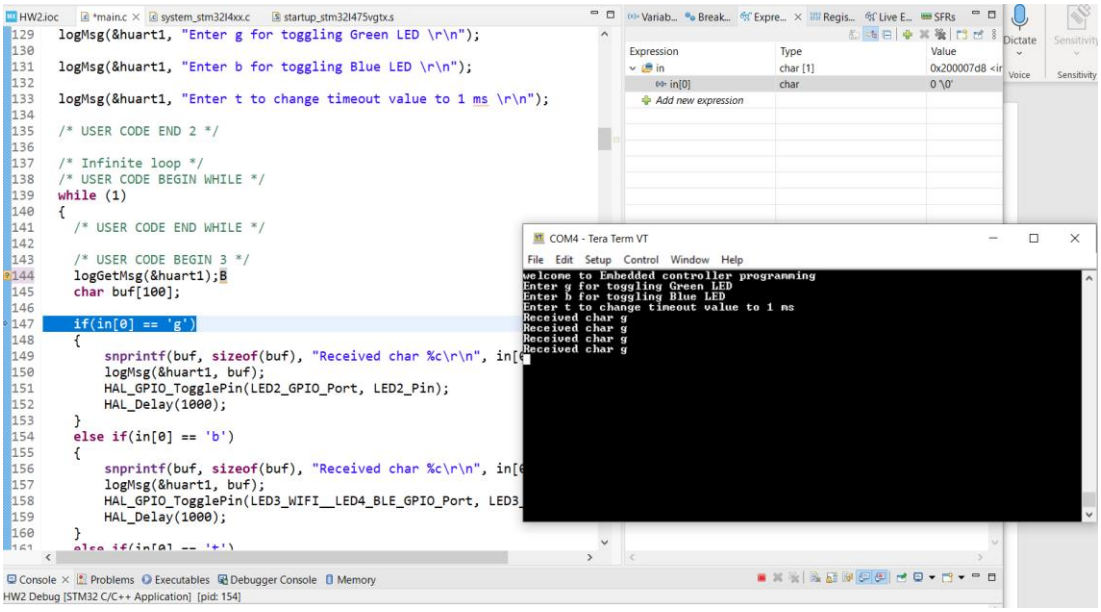
1. ***Test the software after pressing key b, g and other keys multiple times (but not t) slowly first. Then, press b or g a few times quickly and watch what you notice and see on the screen. Write your observation/comments here or in the code.***

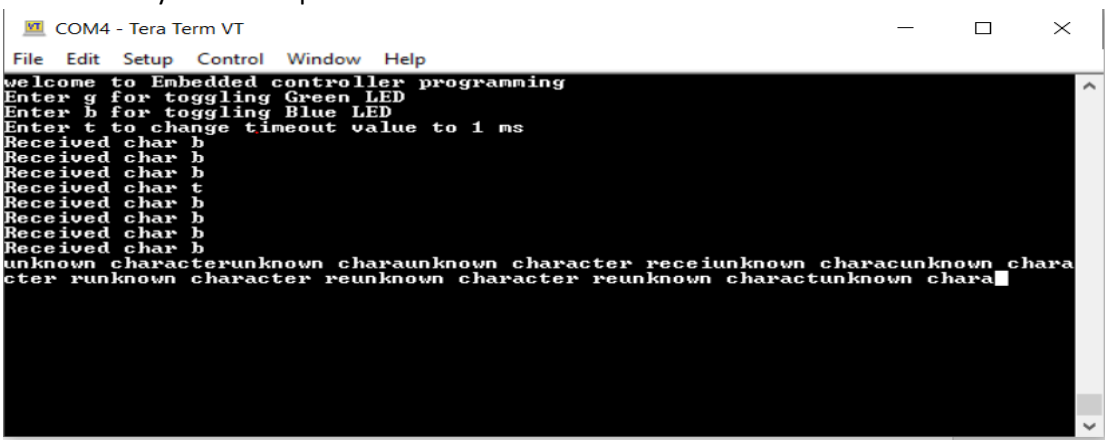
   When I press b or g slowly, everything will be printed out correctly. When I try to press b or g faster, I can see that the board stops responding to the key I press in. I suspect it is because the delay in the b and g function is 1 second, in the 1 second time frame, the UART 1 Rx buffer/FIFO has been exhausted, we do not clear the buffer/FIFO fast enough, so it stops responding.



2. ***Enter t to change the UART timeout to 1 ms and repeat step 4. Watch what you notice and see on the screen. Write your observation/comments here or in the code***

   I noticed that the whole sentence can not be printed out on the console correctly. It may be the timeout for the UART transmit is less that the time it needs to send out the entire char array, so

the char array is not complete.



3. ***Repeat step 4 but reduce the LED delay to 10 ms (It was set to 1 sec in 3.3 and 3.4 above). Watch what you notice and see on the screen. Write your observation/comments here or in the code.***

   I found out when I press b or g, the LED respond is much faster, since we have lowered the delay time to 10 ms. However, when I press t to change the UART timeout, I still can not see the whole sentence, since the timeout is less than the time UART takes to transmit the whole char array.