COSE421 Embedded Systems

Assignment #6

No late turn-in accepted

You want to control the speed of the toy vehicle, depending on the distance between the vehicle and obstacle in front, as follows. The distance should be measured using the Ultrasonic sensor (HC-SR04). The measured distance should be sent every second to the UART terminal in Tera Term via the Bluetooth module (HC-06)

- If (distance ≤ 10cm), then **stop** the vehicle
- If (10cm < distance ≤ 20cm), then **low** speed
- If (20cm < distance ≤ 30cm), then **mid** speed
- If (distance > 30cm), then **high** speed

You are allowed to determine the actual rpm (revolutions per minute) for low, mid and high speeds. You are free to use C, assembly or both (C + assembly mix).

What and How to submit:

1. Upload your code (both C and assembly) to Blackboard.
2. Upload video clip (3-min?) to YouTube and provide the link to Blackboard. Your video clip should have **at least** the following contents:
    - Your smiling face
    - Understandable explanation of HW connections and SW
    - Demo with Tera Term terminal

Note: This is an individual assignment. You are welcome to discuss, but DO NOT COPY solutions. If you are found to copy solutions from others or slightly modify the solutions from others, both of you will be given 0 credits.