APOLLINE

Compile, Upload & Run

An Embedded C Programming Event

Brief Description:

"Skynet is trying to take control all over. You are all getting a chance to show them who should be having control."

Skynet somehow generated a bug in our communication system. You have to find the bug and put the System to rights.

Skynet has sent some troopers of its own to get into our army. So you will be tested first before going to the actual war.

So be prepared …

Details:

ROUND 1: Homo sapiens test:

1. For this round, we have developed a test through which we can distinguish between homo sapiens and Skynet AI system.
2. We will check your embedded C programming skills.
3. We will provide you a circuit. The electronic components in the circuit are wired beforehand with the microcontroller. You just have to write the code for that circuit and we will judge you on the basis of time taken by the team to successfully run the code on it.

PROBLEM STATEMENT:

"You have to write an embedded c code for the microcontroller of your choice (Arduino UNO or Atmel AVR microcontrollers).

Every time when we press the push button switch, your code will increment the values on the 7 - segment starting from 0 to 9."

Your knowledge of the following components' interfacing with microcontrollers will be tested in this round:

a. **7 segment display**
b. **Push buttons**

Link (For reference): https://www.youtube.com/watch?v=oL84Wo9PNYs

ROUND 2: No man's land:

1. This is the game time guys. It is the time for the actual mission. Show them what you are capable of.
2. It indulges into deeper topics of programming as expected and superior programming skills are required for this stage.

PROBLEM STATEMENT:

"This will be provided to you after the completion of first round."

Your knowledge of the following components' interfacing with microcontroller will be tested in this round:

a. **LCD display or 8 * 8 led matrix display**
b. **Ultrasonic sensors or IR sensors**
c. **DC Motors**
d. **Buzzers**
e. **LEDs**

NOTE:

- *Team members should be present at the specified time.*
- *In case of any ambiguity, event coordinators' decision is final.*
- *For updates, follow us at https://www.facebook.com/apolline2k17*

RULES:

1. You have to complete the program and run the code on microcontroller under the specified time.
2. Points will be awarded on the basis of time, the readability of the code and the efficiency of the code.
3. You have two choices of microcontroller, Arduino or Atmel AVR.
4. All the required materials and necessaries (such as microcontroller, laptops/PC, electronic components, etc) will be provided to the participants. You don't have to bring anything.
5. There is no restriction regarding year and branch for the team members.
6. Only teams of maximum 3 members can come for this mission.
7. The code should be neat and optimised as Skynet don't know the value of indentation and a neatly written code. So, it will be hard for it to understand this neatly humanly way written code. (*i.e. extra points for indented and properly written code.*)

CONTACTS
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