109.1 IOTBigData Midterm Form

Your work: You need to implement at least 3 IOT sensors + 1 led/ lcd module assigned by this course together with NodeMCU and server. The motivation and purposes of your implementation are decided by your team, rather than somebody else. However, you have to make them reasonable for your work in order to get a nice grade. Your Chinese or English writing is connected to your grade.

Additionally, Industrial Internet of Things (e.g. use IIOT for short) is a state-of-art implementation in the IOT area, and uses advanced ideas that are related with various connected devices, which help following tasks to control the behavior of the industrial devices – monitoring, collecting, exchanging, analyzing, instantly acting (i.e. controlling) on information. Hence, your work needs to contain 3 of them: monitoring, controlling, and collecting.

Title of your work:	
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Tasks Checklist: The monitoring, collecting, and controlling are musts.

- ■ Monitoring: pass the sensing data from sensors to NodeMCU, then to server
- ■ Collecting: collect the sensing data from sensors, and store them in the server
- ■ Controlling: instantly acting on information from sensors to server
- ☐ Exchanging: exchange the sensing data among IOT devices in which you may exploit NodeMCU and other single chips.
- ☐ Analyzing: analyzing the sensing data by using analytics methodologies

Code submission	■ Already submitted as attached

Motivation:

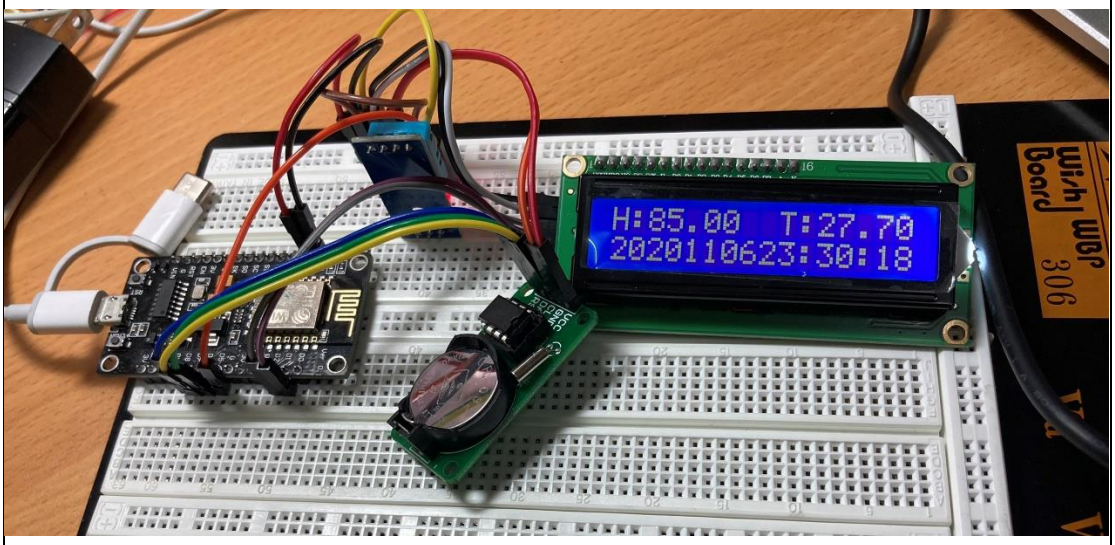
為了人們的健康，目前大部分的菇類很多都是使用化學肥料種植，而為了培養出有機肥料需要殺掉微生物與孢子，就要執行滅菌這道程序，利用水蒸氣高壓在滅菌的時限內，溫溼度是否能達到滅菌環境的標準值是極為重要的，可能因為溫度或時間不夠，以致於殺不死菌，也有可能滅菌時間太久導致接種後造成不定時的危害。

Purposes:

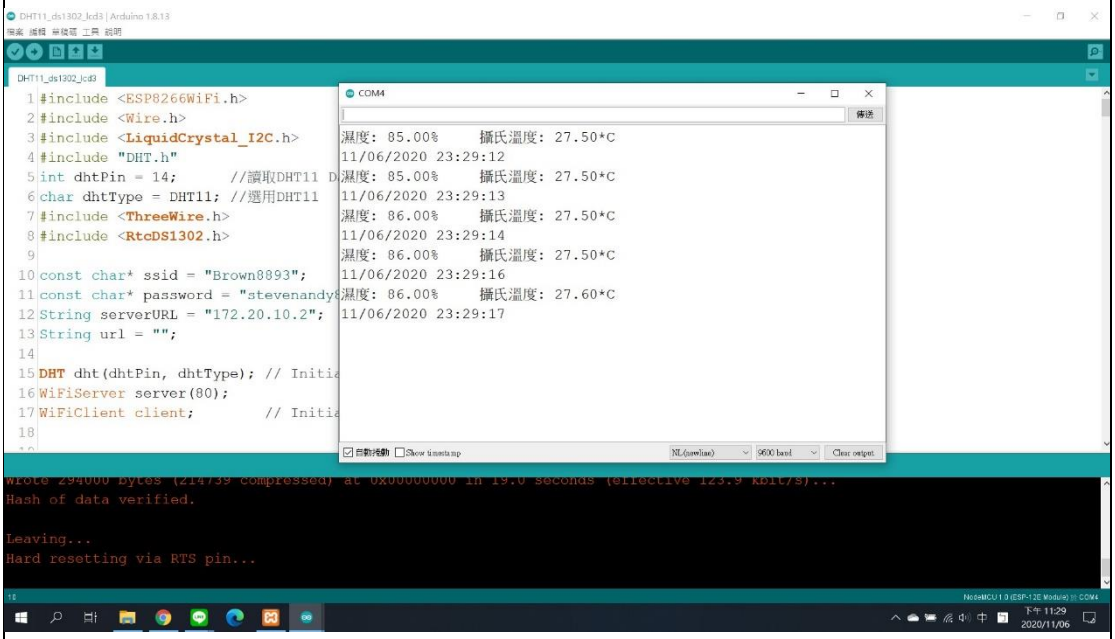
監測滅菌期間內的溫溼度跟數據比較後來決定需調整的溫濕度，並收集每次感測的溫溼度數據來對下次滅菌時的時間來做微量調整，找出最適合滅菌的溫度與時間，來達成最佳滅菌的環境。

Outputs: (Each photo for your output needs to be attached a corresponding description.)

1. 溫溼度、LCD、時鐘模組接線圖，且溫溼度與時間顯示在 LCD 上



2. Arduino 序列埠顯示溫溼度與時間



3. 溫濕度與時間上傳到資料庫