**REPORT LAB**

**EMBEDDED SYSTEM - CO3054**

*Group:* **CC02**

*Student:* **Dương Gia An – 1952163**

Contents

[**I.** **FREERTOS SOFTWARE TIMER** 5](#_Toc120279833)

[1. After create new Project with Template. I config “configUSE\_TIMERS” in FreeRTOSConfig.h by new file override.h 5](#_Toc120279834)

[2. Initialize Global variables: 2 timer by NULL and counter by 0. 5](#_Toc120279835)

[3. In app\_main(), I use **xTimerCreate**  for 2 timer **auto\_loader\_timer1** and **auto\_loader\_timer2.**  6](#_Toc120279836)

[4. After creae 2 timer. I set condition to make sure them ok ( mean not **NULL**) to Start timer by **xTimerStart(timer, delay).** 7](#_Toc120279837)

[5. In call back function for Timer. I check Timer ID by p**vTimerGetTimerID**. When a timer in 2 timer expires, I check if timer’s ID is 1 or 2 then print as requirment. After they done their task, I use **xTimerStop** to stop timer. 8](#_Toc120279838)

[6. After 2 timer done there task, about 25 second, I check if true that 2 timer done there task. 9](#_Toc120279839)

[7. Result and github link for project: HK221\_CO3054\_ES\_LAB/LAB3/LAB3\_SoftwareTimer at lab3 · kinggiaan/HK221\_CO3054\_ES\_LAB (github.com) 9](#_Toc120279840)

[**II.** **ESP32: WIFI SUBSYSTEM** 10](#_Toc120279841)

[1. Result for **softAP** that I can connect to my phone to ESP wifi (myssid) : 10](#_Toc120279842)

[2. Result ESP as a **STATION** that connect to my WIFI name’s **P0922** and attempt to connect another one’s name **P0922\_5G**: 11](#_Toc120279843)

1. **FREERTOS SOFTWARE TIMER**
2. After create new Project with Template. I config “configUSE\_TIMERS” in FreeRTOSConfig.h by new file override.h

A screenshot of a computer

Description automatically generated with medium confidence

1. Initialize Global variables: 2 timer by NULL and counter by 0.

Graphical user interface, text

Description automatically generated

1. In app\_main(), I use **xTimerCreate**  for 2 timer **auto\_loader\_timer1** and **auto\_loader\_timer2.**   
   Text

   Description automatically generated
2. After creae 2 timer. I set condition to make sure them ok ( mean not **NULL**) to Start timer by **xTimerStart(timer, delay).**  
   Text

   Description automatically generated
3. In call back function for Timer. I check Timer ID by p**vTimerGetTimerID**. When a timer in 2 timer expires, I check if timer’s ID is 1 or 2 then print as requirment. After they done their task, I use **xTimerStop** to stop timer.

Text

Description automatically generated

1. After 2 timer done there task, about 25 second, I check if true that 2 timer done there task.

Text

Description automatically generated

1. Result and github link for project: [HK221\_CO3054\_ES\_LAB/LAB3/LAB3\_SoftwareTimer at lab3 · kinggiaan/HK221\_CO3054\_ES\_LAB (github.com)](https://github.com/kinggiaan/HK221_CO3054_ES_LAB/tree/lab3/LAB3/LAB3_SoftwareTimer)   
    Text

   Description automatically generated
2. **ESP32: WIFI SUBSYSTEM**

By using ESP-IDF template for **softAP** and **STATION.**

[esp-idf/examples/wifi/getting\_started at master · espressif/esp-idf (github.com)](https://github.com/espressif/esp-idf/tree/master/examples/wifi/getting_started)

1. Result for **softAP** that I can connect to my phone to ESP wifi (myssid) :

Text

Description automatically generated

Graphical user interface, application

Description automatically generated

## 2. Result ESP as a **STATION** that connect to my WIFI name’s **P0922** and attempt to connect another one’s name **P0922\_5G**:

Text

Description automatically generated