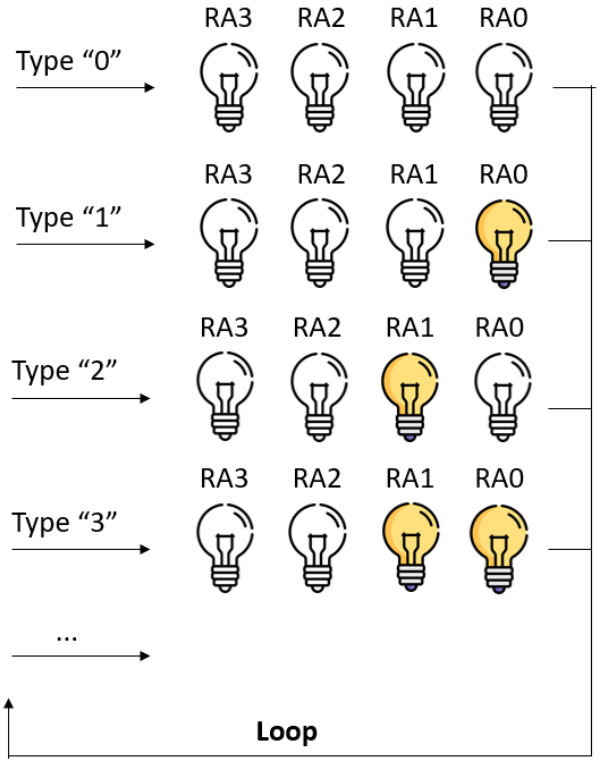
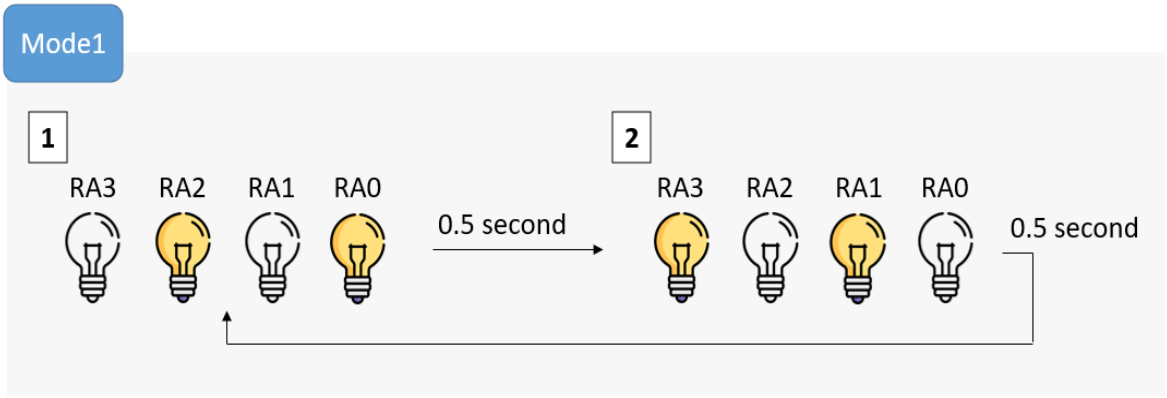
Lab 10: Requirement Description

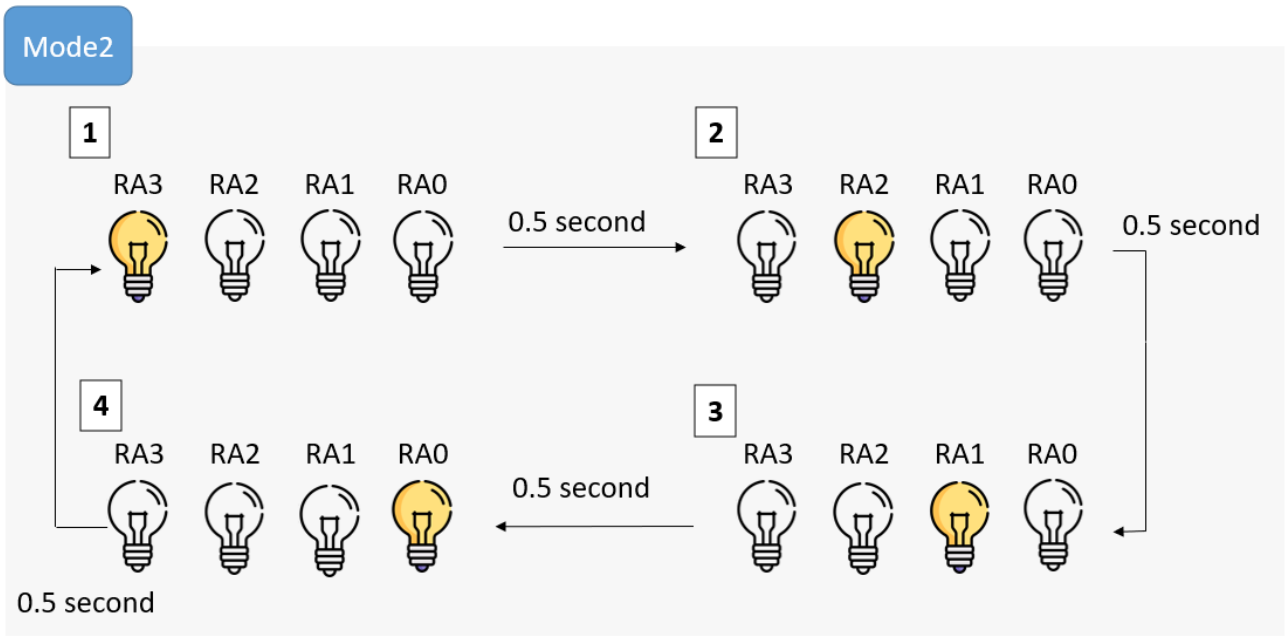
- **Introduction:**
  - Video : Lab 10: UART - YouTube
  - HackMD : Lab10: Test Program Setup Tutorial - HackMD
  - Demo Video : Lab10 Demo 影片 - YouTube
- **Lab requirements:**
  - **Testing(0%):**
    - **Description:** Follow the instruction in HackMD to test our UART cable can perfectly function. Please check all the factor (baud rate match especially) that will cause you receive wrong/none message on Putty before you reach out to TAs for cable replacement.
  - **Basic (70%):**
    - **Description:** Implement your own tester which allows you print what you've key on keyboard. However, in this case, your baud rate should be 1200. You can use Sample Code then complete UART_Initialize() and MyusartRead() functions in setting_hardware/uart.c to achieve that.

- **Advanced (30%) :**
  - **Description:** Followed by Basic Baud rate is 1200, please implement a system with 4 LEDs, which allows the user to input a number from 0 to 15, and the bulb will light up according to the number entered
  - **Example:**



- **Bonus (20%):**
  - **Description:** Followed by Basic Baud rate is 1200, please implement a system which has two mode, when you type “m1”, the system will enter Mode1, and so does Mode2.
    In each mode, the 4 LEDs will light up in the following sequence:





And you can **press "e"** to **exit** the mode , then the 4 LEDs will **be turned off.**