



**Islamic University of  
Faculty of Engineering.  
Computer Engineering  
Department.**



## **Embedded System Lab**

### **Lab1 : Introduction to Embedded**

### **Homework #1**

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**Friday**

**15/Nov./2024**

- 1- Implement a system that takes two buttons as input, if the first one is clicked you should shine 4 LEDs (the four LEDs should be connected to PORT2), then if you click the second one you should turn all the LEDs off.

```

1  #define GPIO0DIR (*(volatile unsigned long*)0x50008000)
2  #define GPIO0DATA (*(volatile unsigned long*)0x50003FFC)
3
4  #define GPIO2DIR (*(volatile unsigned long *)0x50028000)
5  #define GPIO2DATA (*(volatile unsigned long *)0x50023FFC)
6
7  int main(void) {
8      GPIO0DIR |= 0b000;
9      GPIO0DATA = 0b110;
10     GPIO2DIR |= 0b1111;
11     GPIO2DATA = 0b0000;
12
13     while (1) {
14         if (GPIO0DATA & 0b010) {
15             GPIO2DATA |= 0b1111;
16         }
17         if (GPIO0DATA & 0b100)
18         {
19             GPIO2DATA &= 0b000000;
20         }
21     }
22 }
23
24 return 0;
25 }

```



