

Class 1 Task Program: - Blink Two LED On PORTB PIN3 and PIN8 Using Memory Mapping
Board: - STM32F446RE

```
1  /**
2  ****
3  * @file      : main.c
4  * @author    : Sagar More
5  * @brief     : Class 1 Task Program
6  *             Blink Led on POARTB PIN3 AND PIN8 STM32F446RE
7  *             Where TO Connect LED?
8  *             PORTB - PIN3 and PIN8, POARTB uses the AHB1 bus
9  ****
10 */
11
12 /**
13 RCC_BASE      :- 0x40023800
14
15 RCC_AHB1ENR_OFFSET :- 0x30
16 RCC_AHB1ENR      :- 0x40023830
17 -----
18
19 GPIOB_BASE      :- 0x40020400
20
21 GPIOB_MODER_OFFSET :- 0x00
22 GPIOB_MODER      :- 0x40020400
23
24 GPIOB_ODR_OFFSET  :- 0x14
25 GPIOB_ODR         :- 0x40020414
26 -----
27 */
28
29 #include <stdint.h>
30
31 #define RCC_AHB1ENR (*(uint32_t *)0x40023830)
32 #define GPIOB_MODER (*(uint32_t *)0x40020400)
33 #define GPIOB_ODR   (*(uint32_t *)0x40020414)
34
35 void delay(void) {
36     for (int i = 0; i < 1000000; i++) {
37     }
38 }
39
40
41 int main(void){
42     // Enable clock for GPIOB
43     RCC_AHB1ENR |= (1 << 1);
44
45     // Set PB3 as output
46     GPIOB_MODER |= (1 << 6);
47     GPIOB_MODER &= ~(1 << 7);
48
49     // Set PB8 as output
50     GPIOB_MODER |= (1 << 16);
51     GPIOB_MODER &= ~(1 << 17);
52
53     while (1)
54     {
55         GPIOB_ODR |= (1 << 3); // PB3 ON
56         GPIOB_ODR &= ~(1 << 8); // PB8 OFF
57         delay();
58
59         GPIOB_ODR |= (1 << 3); // PB3 ON
60         GPIOB_ODR |= (1 << 8); // PB8 ON
61         delay();
62
63         GPIOB_ODR &= ~(1 << 3); // PB3 OFF
64         GPIOB_ODR |= (1 << 8); // PB8 ON
65         delay();
66
67         GPIOB_ODR &= ~(1 << 3); // PB3 OFF
68         GPIOB_ODR &= ~(1 << 8); // PB8 OFF
69         delay();
70     }
71 }
```