

```
1  /* file: GPIO.c */
2  /* Author - Onisokien Ayonoadu
3           Priscilla Chua, Mar 10 2020 */
4
5  #include "stm32f10x.h"
6  #include "GPIO.h"
7
8  void ledInits(){
9      //Sets all ports needed in the enable register
10     RCC->APB2ENR |= RCC_APB2ENR_IOPAEN | RCC_APB2ENR_IOPBEN | RCC_APB2ENR_IOPCEN;
11
12     //Set the config and mode bits for Port A bit 12,11,10 and 9 so they will
13     // be push-pull outputs (up to 50 MHz)
14     GPIOA->CRH |= GPIO_CRH_MODE12|GPIO_CRH_MODE11|GPIO_CRH_MODE10|GPIO_CRH_MODE9;
15     GPIOA->CRH &= ~GPIO_CRH_CNF12 & ~GPIO_CRH_CNF11 & ~GPIO_CRH_CNF10 & ~GPIO_CRH_CNF9;
16 }
17
18 uint16_t GPIOset(){
19
20     uint16_t sw_val;
21     //Sets the GPIOs needed for switches to be read. The final result for this equation will be a 4-bit
22     number corresponding to the values on the switches.
23     sw_val= (((GPIOA-> IDR & (GPIO_IDR_IDR6|GPIO_IDR_IDR7))>>6 |
24     ((GPIOC->IDR&(GPIO_IDR_IDR10|GPIO_IDR_IDR11))>>8)) ^ 0x000F);
25
26     return (sw_val);
27 }
28
29 void updateLEDS(uint16_t LEDup)
30 {
31     GPIOA->ODR |= LEDup;
32 }
```