```
/*
* Title: pwm.c
* Author: Noah Rowbotham
* Date: Feb. 25th, 2020
* Lab: ENEL 387-091
*/

#include "stm32f10x.h"
#include "pwm.h"

void initTIM1(uint32_t divider, uint32_t reload_val, uint32_t cmp_val)
{
        TIM1->CR1 |= TIM_CR1_CEN;
        TIM1->CR2 |= TIM_CR2_OIS1;
        TIM1->EGR |= TIM_EGR_UG;
        TIM1->CCMR1 |= TIM_CCMR1_OC1M_2 | TIM_CCMR1_OC1M_1 | TIM_CCMR1_OC1PE |
TIM_CCMR1_OC1FE;
        TIM1->CCER |= TIM_CCER_CC1E;

        TIM1->PSC = divider;
        TIM1->ARR = reload_val;
        TIM1->CCR1 = cmp_val;

        TIM1->BDTR |= TIM_BDTR_MOE | TIM_BDTR_OSSI;
        TIM1->CR1 |= TIM_CR1_ARPE | TIM_CR1_CEN;
}

void updatePWM(uint32_t update_val)
{
        TIM1->CCR1 = update_val;
        TIM1->EGR |= TIM_EGR_UG;
}
```