Main Function

```
int main(void) { // main function for project
 puts("Starting RTOS");

 // LPC_IOCON->P0_30 //pull down resistor set bits 3 and 4 to 01
 xTaskCreate(pwm_task, /*description*/ "pwm_task", /*stack depth*/ 4096 /
sizeof(void *), /*parameter*/ (void *)1,
             /*priority*/ 1, /*optional handle*/ NULL);

 vTaskStartScheduler(); // This function never returns unless RTOS scheduler runs
out of memory and fails

 return 0;
}
```

PWM Function

```
void pwm_task(void *p) {
 pwm1__init_single_edge(1000);

 // Locate a GPIO pin that a PWM channel will control
 // NOTE You can use gpio__construct_with_function() API from gpio.h

 gpio_s pin = gpio__construct_with_function(GPIO__PORT_2, /*Pin*/ 0,
GPIO__FUNCTION_1);

 // We only need to set PWM configuration once, and the HW will drive
 // the GPIO at 1000Hz, and control set its duty cycle to 50%
 pwm1__set_duty_cycle(PWM1__2_0, 50);

 // Continue to vary the duty cycle in the loop
 uint8_t percent = 0;
 while (1) {
   pwm1__set_duty_cycle(PWM1__2_0, percent);

   if (++percent > 100) {
     percent = 0;
   }

   vTaskDelay(100);
 }
}
```