

Assignment-4

```
#include<stdio.h>
#include<stdbool.h>
#include<freertos/FreeRTOS.h>
#include<freertos/task.h>
#include<esp_err.h>
#include "ultrasonic.h"
#define ECHO_GPIO 12
#define TRIGGER_GPIO 13
#define MAX_DISTANCE_CM 500 // Maximum of 5 meters void
ultrasonic_test(void *pvParameters)
{
    float distance;
    ultrasonic_sensor_t sensor = {
        .trigger_pin = TRIGGER_GPIO,
        .echo_pin = ECHO_GPIO
    };
    ultrasonic_init(&sensor); while
    (true) {
        esp_err_t res = ultrasonic_measure(&sensor, MAX_DISTANCE_CM, &distance);
        if (res == ESP_OK) {
            printf("Distance: %0.04f m\n", distance);
        } // Print error else
        {
            printf("Error %d: ", res); switch (res) {
                case
                ESP_ERR_ULTRASONIC_PING:
                    printf("Cannot ping (device is in invalid state)\n");
                    break; case
                ESP_ERR_ULTRASONIC_PING_TIMEOUT:
                    printf("Ping timeout (no device found)\n"); break;
                case
                ESP_ERR_ULTRASONIC_ECHO_TIMEOUT:
                    printf("Echo timeout (i.e. distance too
                    big)\n"); break; default:
                    printf("%s\n", esp_err_to_name(res));
            }
        }
    }
}
```

Assignment-4

WOKWI

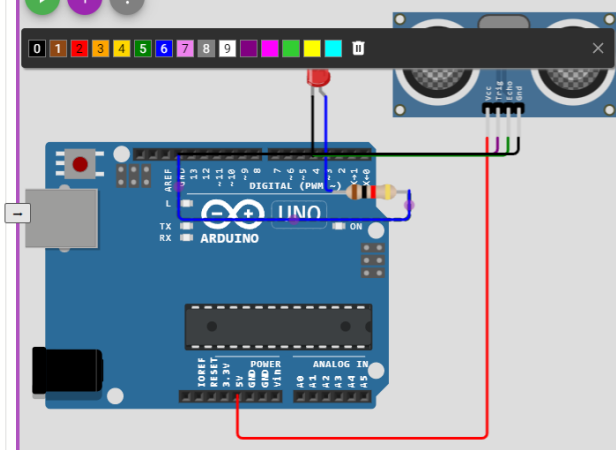
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simulation

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