**CODE:**

**#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**

**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=%0.05f m\n", distance);**

**}**

**else {**

**printf("Error %d: ", res);**

**switch (res) {**

**case ESP\_ERR\_ULTRASONIC\_PING:**

**printf("Cannot ping \n");**

**break;**

**case ESP\_ERR\_ULTRASONIC\_PING\_TIMEOUT:**

**printf("Ping timeout\n");**

**break;**

**case ESP\_ERR\_ULTRASONIC\_ECHO\_TIMEOUT:**

**printf("Echo timeout \n");**

**break;**

**default:**

**printf("%s\n", esp\_err\_to\_name(res));**

**}**

**}**

**vTaskDelay(pdMS\_TO\_TICKS(500));**

**}**

**}**

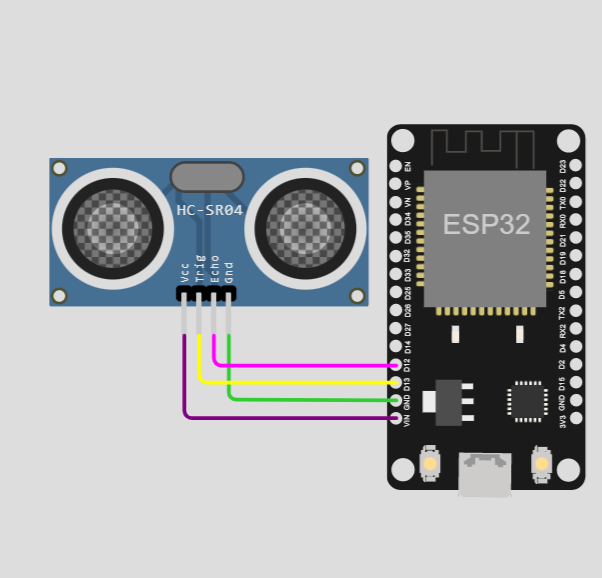
**void app\_main()**

**{**

**xTaskCreate(ultrasonic\_test, "ultrasonic\_test", configMINIMAL\_STACK\_SIZE \* 3, NULL, 5, NULL);**

**}**

**CIRCUIT:**



**OUTPUT:**

**Distance=4.0564 m**

**Distance=1.1914 m**