

ASSIGNMENT-1

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Embedded C code:

```
#include <Servo.h>
int dist = 0;
long readUltrasonicDistance(int triggerPin, int echoPin)
{
    pinMode(triggerPin, OUTPUT);
    digitalWrite(triggerPin, LOW);
    delayMicroseconds(2);
    digitalWrite(triggerPin, HIGH);
    delayMicroseconds(10);
    digitalWrite(triggerPin, LOW);
    pinMode(echoPin, INPUT);
    return pulseIn(echoPin, HIGH);
}
Servo servo_8;
void setup()
{
    servo_8.attach(8, 500, 2500);
    pinMode(2, INPUT);
    pinMode(12, OUTPUT);
    pinMode(A0, INPUT);
    pinMode(9, OUTPUT);
}
void loop()
{
    dist = 0.01723 * readUltrasonicDistance(7, 7);
    if (dist <= 100) {
        servo_8.write(90);
        delay(1000); } else {
        servo_8.write(0);
        delay(1000);
    } if (digitalRead(2) == 1) {
        digitalWrite(12, HIGH);
        delay(1000); } else {
        digitalWrite(12, LOW);
        delay(1000); }
    if (analogRead(A0) > 200) {
        digitalWrite(9, HIGH);
        delay(1000);
    }
```

```

} else {
digitalWrite(9, LOW);
delay(1000); }
}

```

Circuit connections:

