

ASSIGNMENT 1

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```
// C++ code #include
<Servo.h>int dist = 0;
long readUltrasonicDistance(int triggerPin, int echoPin)
{
    pinMode(triggerPin, OUTPUT); // Clear the trigger
    digitalWrite(triggerPin, LOW);
    delayMicroseconds(2);
    // Sets the trigger pin to HIGH state for 10 microseconds
    digitalWrite(triggerPin, HIGH);
    delayMicroseconds(10);
    digitalWrite(triggerPin, LOW);
    pinMode(echoPin, INPUT);
    // Reads the echo pin, and returns the sound wave travel time in microseconds
    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); // Wait for 1000 millisecond(s)
} else { servo_8.write(0);
    delay(1000); // Wait for 1000 millisecond(s)
}
if (digitalRead(2) == 1) { digitalWrite(12,
    HIGH);
    delay(1000); // Wait for 1000 millisecond(s)
} else {
    digitalWrite(12, LOW);
    delay(1000); // Wait for 1000 millisecond(s)
}
if (analogRead(A0) > 200) {
    digitalWrite(9, HIGH);
    delay(1000); // Wait for 1000 millisecond(s)
} else {
    digitalWrite(9, LOW);
    delay(1000); // Wait for 1000 millisecond(s)
}
```

