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ASSIGNMENT - 2

Code:

```
#include<Servo.h>
Servo s;
void setup()
{
 pinMode(3, OUTPUT);
 pinMode(4, INPUT);
 Serial.begin(9600);
 s.attach(5);
}

void loop()
{
digitalWrite(3, LOW);
delayMicroseconds(2);

digitalWrite(3, HIGH);
delayMicroseconds(10);
digitalWrite(3, LOW);

float duration = pulseIn(4, HIGH);
float distance= duration*0.034/2;

Serial.print("Distance: ");
Serial.println(distance);
```
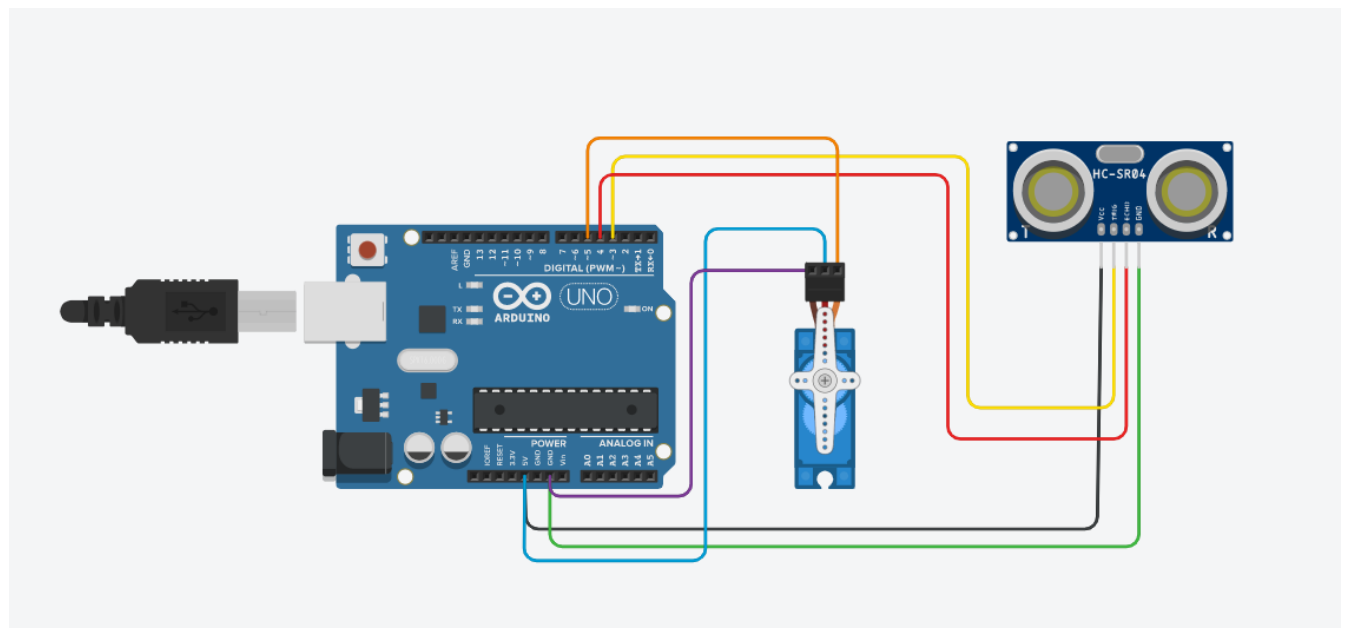
```
  if (distance<25){

    for(int i=0;i<=180;i++){

    s.write(i);

    delay(50);}

    delay(200);

    Serial.print("Vehicle has approached, Opening Gate!!");

    for(int j=180;j>=0;j--){

    s.write(j);

    delay(50);}

    delay(200);

   }

 }
```

Screenshots:

Ultrasonic Distance Sensor

Name 1

6.5in / 16.5cm

HC-SR04

```
 7      Serial.begin(9600);
 8      s.attach(5);
 9   }
10
11   void loop()
12   {
13   digitalWrite(3, LOW);
14   delayMicroseconds(2);
15
16   digitalWrite(3, HIGH);
17   delayMicroseconds(10);
18   digitalWrite(3, LOW);
19
20   float duration = pulseIn(4, HIGH);
21   float distance= duration*0.034/2;
22
23   Serial.print("Distance: ");
24   Serial.println(distance);
25
26     if (distance<25){
27       for(int i=0;i<=180;i++){
28       s.write(i);
29       delay(50);}
```

Serial Monitor

```
Distance: 326.11
Distance: 326.15
Distance: 326.11
Distance: 326.15
Distance: 326.11
Distance: 326.15
Distance: 16.06
Vehicle has approached, Opening Gate!!Distance: 15.59
```

Ultrasonic Distance Sensor

Name 1

74.3in / 188.8cm

HC-SR04

```
 7      Serial.begin(9600);
 8      s.attach(5);
 9   }
10
11   void loop()
12   {
13   digitalWrite(3, LOW);
14   delayMicroseconds(2);
15
16   digitalWrite(3, HIGH);
17   delayMicroseconds(10);
18   digitalWrite(3, LOW);
19
20   float duration = pulseIn(4, HIGH);
21   float distance= duration*0.034/2;
22
23   Serial.print("Distance: ");
24   Serial.println(distance);
25
26     if (distance<25){
27       for(int i=0;i<=180;i++){
28       s.write(i);
29       delay(50);}
```

Serial Monitor

```
Distance: 182.07
Distance: 182.07
Distance: 182.07
Distance: 183.60
Distance: 183.60
Distance: 183.60
Distance: 183.57
Distance: 183
```