

ASSESSMENT-2

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ROLL.NO:19BEC0273

TINKERCAD CODE:

```
#include<Servo.h>

Servo myservo;

const int trigPin=3;

const int echoPin=5;

long timeduration;

int distance;


void setup() {

    myservo.attach(9);

    pinMode(trigPin,OUTPUT);

    pinMode(echoPin,INPUT);

    Serial.begin(9600);

}


void loop() {

    digitalWrite(trigPin,LOW);

    delayMicroseconds(2);

    digitalWrite(trigPin,HIGH);

    delayMicroseconds(10);

    digitalWrite(trigPin,LOW);
```

```
timeduration=pulseIn(echoPin,HIGH);
```

```
distance=(0.034*timeduration)/2;
```

```
if(distance<=250){
```

```
    myservo.write(90);
```

```
}
```

```
else{
```

```
    myservo.write(0);
```

```
}
```

```
Serial.print("distance:");
```

```
Serial.println(distance);
```

```
delay(1);
```

```
}
```

TINKERCAD LINK:

<https://www.tinkercad.com/things/bHAVI7wrIQL-grand-borwo-albar/editel>

CODE:

```
21 void loop() {
22     digitalWrite(trigPin, LOW);
23     delayMicroseconds(2);
24     digitalWrite(trigPin, HIGH);
25     delayMicroseconds(10);
26     digitalWrite(trigPin, LOW);
27
28     tmeduration=pulseIn(echoPin, HIGH);
29     distance=(0.034*tmeduration)/2;
30
31     if(distance<=250){
32
33
34         myservo.write(90);
35
36     }
37     else{
38         myservo.write(0);
39     }
40
41     Serial.print("distance:");
42     Serial.println(distance);
43
44     delay(1);
45
46
47 }
```

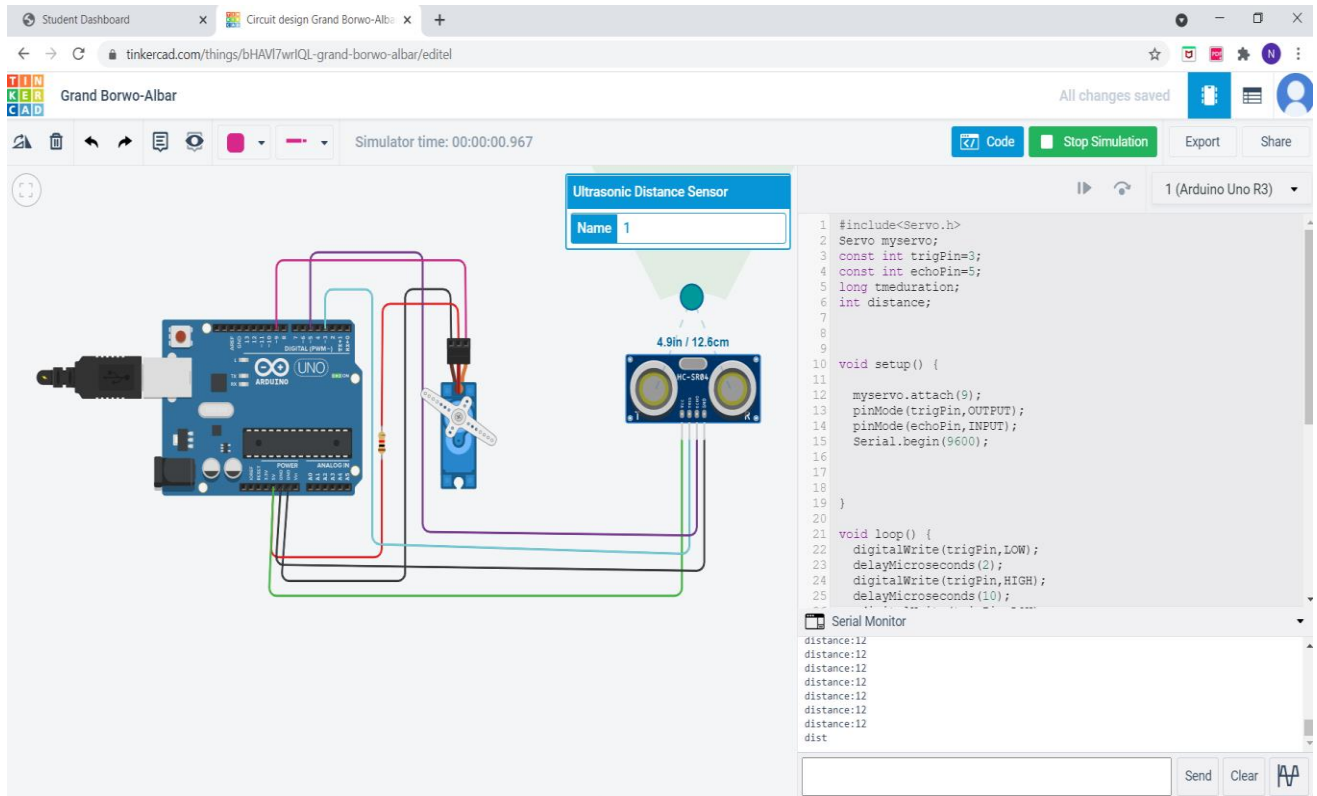
Text



1 (Arduino Uno R3)

```
1  #include<Servo.h>
2  Servo myservo;
3  const int trigPin=3;
4  const int echoPin=5;
5  long tmeduration;
6  int distance;
7
8
9
10 void setup() {
11
12     myservo.attach(9);
13     pinMode(trigPin,OUTPUT);
14     pinMode(echoPin,INPUT);
15     Serial.begin(9600);
16
17
18
19 }
20
21 void loop() {
22     digitalWrite(trigPin,LOW);
23     delayMicroseconds(2);
24     digitalWrite(trigPin,HIGH);
25     delayMicroseconds(10);
26     digitalWrite(trigPin,LOW);
27
28     tmeduration=pulseIn(echoPin,HIGH);
29     distance=(0.034*tmeduration)/2;
30
31     if(distance<=250){|
32
33
34         myservo.write(90);
35
36 }
```

Server motor when the Vehical approaches i.e. in range of Ultrasonic sensor (opening):



Grand Borwo-Albar

Simulator time: 00:00:00.967

Ultrasonic Distance Sensor

Name 1

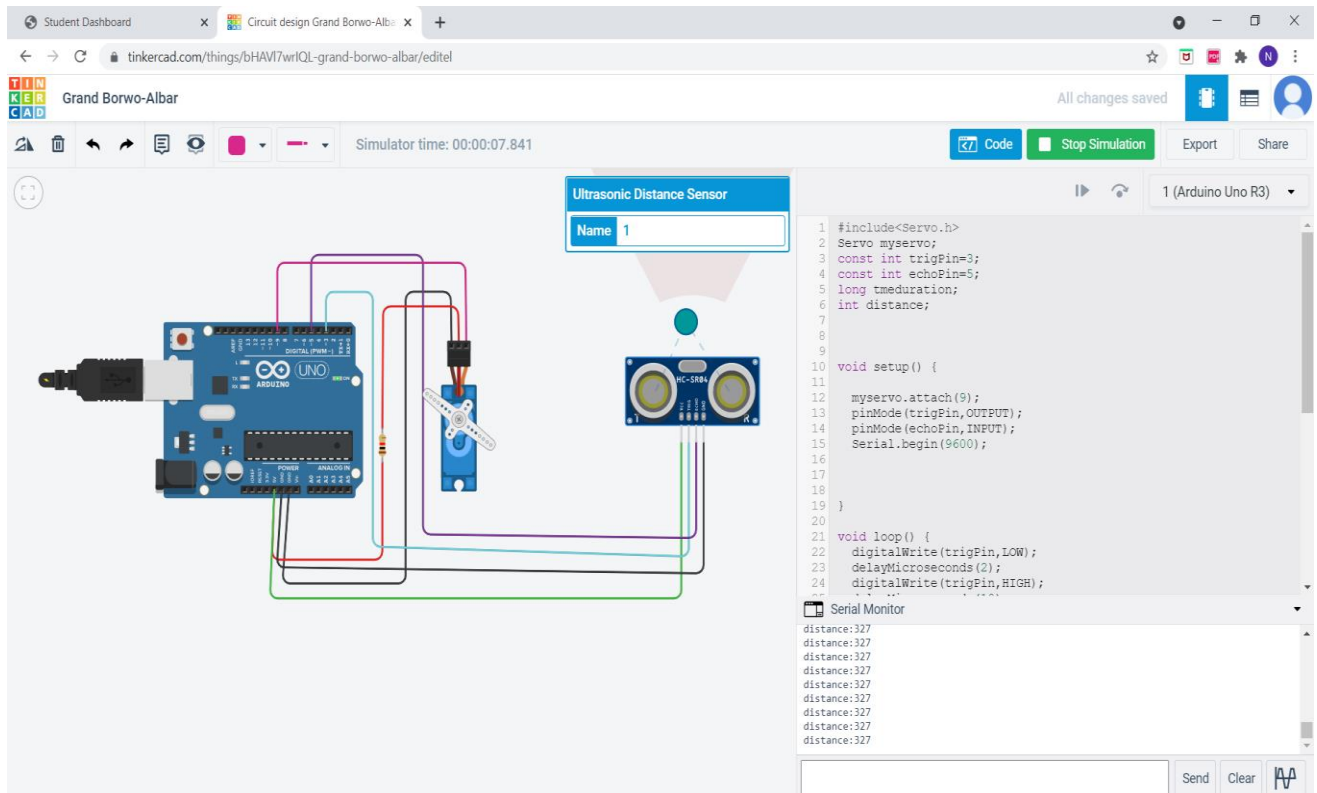
4.9m / 12.6cm

```
1 #include<Servo.h>
2 Servo myservo;
3 const int trigPin=3;
4 const int echoPin=5;
5 long tmeduration;
6 int distance;
7
8
9
10 void setup() {
11   myservo.attach(9);
12   pinMode(trigPin,OUTPUT);
13   pinMode(echoPin,INPUT);
14   Serial.begin(9600);
15 }
16
17
18
19
20
21 void loop() {
22   digitalWrite(trigPin,LOW);
23   delayMicroseconds(2);
24   digitalWrite(trigPin,HIGH);
25   delayMicroseconds(10);
26   distance=...
```

Serial Monitor

distance:12
distance:12
distance:12
distance:12
distance:12
distance:12
dist

Server motor after the car entering the garage i.e. not in Ultrasonic range (Closing):



Grand Borwo-Albar

Simulator time: 00:00:07.841

Ultrasonic Distance Sensor

Name 1

```
1 #include<Servo.h>
2 Servo myservo;
3 const int trigPin=3;
4 const int echoPin=5;
5 long tmeduration;
6 int distance;
7
8
9
10 void setup() {
11   myservo.attach(9);
12   pinMode(trigPin,OUTPUT);
13   pinMode(echoPin,INPUT);
14   Serial.begin(9600);
15 }
16
17
18
19
20
21 void loop() {
22   digitalWrite(trigPin,LOW);
23   delayMicroseconds(2);
24   digitalWrite(trigPin,HIGH);
25   distance=...
```

Serial Monitor

distance:327
distance:327
distance:327
distance:327
distance:327
distance:327
distance:327

