

Name J S MEGHANA

USN 1BM18CS039

Program no Week-4 (1st-question)

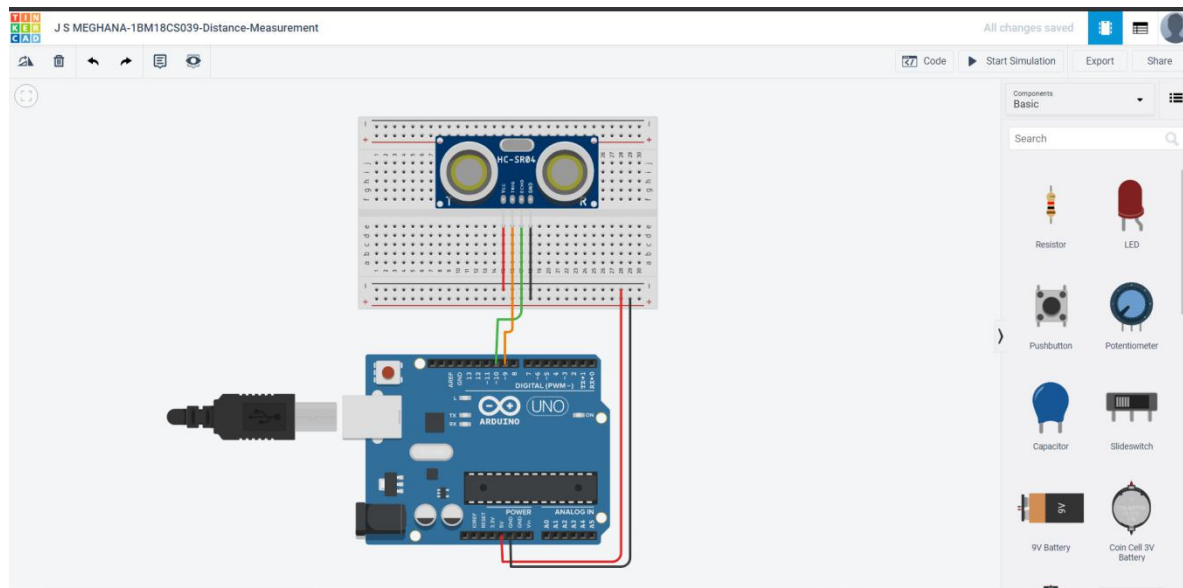
Program Title Measuring the Distance Objects

Aim: Design a system to measure the distance between objects.

Hardware Required

1. Ultrasonic Distance Sensor
2. Arduino Uno Board

Circuit Diagram



Code:

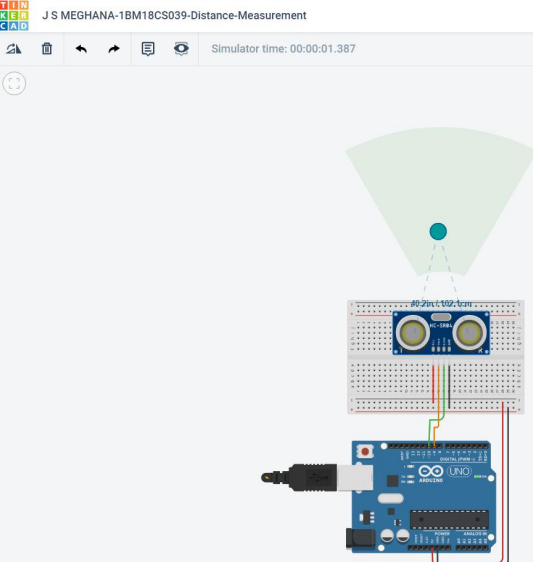
```
const int trigPin = 9;
const int echoPin = 10;
// defines variables
long duration;
int distance;
void setup() {
  pinMode(trigPin, OUTPUT); // Sets the trigPin as an Output
  pinMode(echoPin, INPUT); // Sets the echoPin as an Input
  Serial.begin(9600); // Starts the serial communication
}
void loop() {
  // Clears the trigPin
  digitalWrite(trigPin, LOW);
  delayMicroseconds(2);
  // Sets the trigPin on HIGH state for 10 micro seconds
  digitalWrite(trigPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(trigPin, LOW);
```


Output-3

J S MEGHANA-1BM18CS039-Distance-Measurement

Simulator time: 00:00:01.387

Ultrasonic Distance Sensor
Name 1



```

1 const int trigPin = 9;
2 const int echoPin = 10;
3 // defines variables
4 long duration;
5 int distance;
6 void setup() {
7   pinMode(trigPin, OUTPUT); // Sets the trigPin as an Output
8   pinMode(echoPin, INPUT); // Sets the echoPin as an Input
9   Serial.begin(9600); // Starts the serial communication
10 }
11 void loop() {
12   // Clears the trigPin
13   digitalWrite(trigPin, LOW);
14   delayMicroseconds(2);
15   // Sets the trigPin on HIGH state for 10 micro seconds
16   digitalWrite(trigPin, HIGH);
17   delayMicroseconds(10);
18   digitalWrite(trigPin, LOW);
19   // Reads the echoPin, returns the sound wave travel time in microseconds
20   duration = pulseIn(echoPin, HIGH);
21   // Calculating the distance
22   distance= duration*0.034/2;
23   // Prints the distance on the Serial Monitor
24   Serial.print("Distance: ");
25   Serial.println(distance);
26 }

```

Serial Monitor

```

Distance: 96
Distance: 96
Distance: 96
Distance: 96
Distance: 99
Distance: 99
Distance: 99
Distance: 99

```

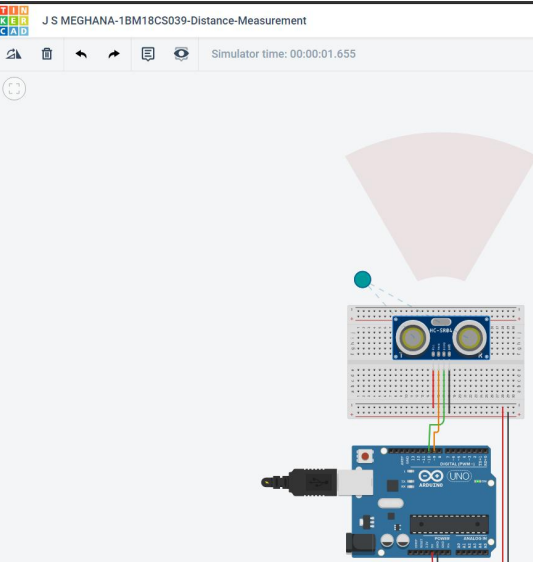
Send Clear

Output-4

J S MEGHANA-1BM18CS039-Distance-Measurement

Simulator time: 00:00:01.655

Ultrasonic Distance Sensor
Name 1



```

1 const int trigPin = 9;
2 const int echoPin = 10;
3 // defines variables
4 long duration;
5 int distance;
6 void setup() {
7   pinMode(trigPin, OUTPUT); // Sets the trigPin as an Output
8   pinMode(echoPin, INPUT); // Sets the echoPin as an Input
9   Serial.begin(9600); // Starts the serial communication
10 }
11 void loop() {
12   // Clears the trigPin
13   digitalWrite(trigPin, LOW);
14   delayMicroseconds(2);
15   // Sets the trigPin on HIGH state for 10 micro seconds
16   digitalWrite(trigPin, HIGH);
17   delayMicroseconds(10);
18   digitalWrite(trigPin, LOW);
19   // Reads the echoPin, returns the sound wave travel time in microseconds
20   duration = pulseIn(echoPin, HIGH);
21   // Calculating the distance
22   distance= duration*0.034/2;
23   // Prints the distance on the Serial Monitor
24   Serial.print("Distance: ");
25   Serial.println(distance);
26 }

```

Serial Monitor

```

Distance: 96
Distance: 99
Distance: 99
Distance: 99
Distance: 99
Distance: 96
Distance: 84
Distance: 326
Distance: 327

```

Send Clear