

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Experiment-5

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AIM:

To measure the distance of an object using SONAR principle by ultrasonic proximity sensor.

Components Required:

Following are the required components to simulate this experiment:

- 1 × Breadboard
- 1 × Arduino Uno R3
- 1 × Ultrasonic sensor
- 4 × Connecting wires

Program:

```
#define echoPin 10

#define trigPin 3

long duration;

int distance;

void setup() {

    // put your setup code here, to run once:

    pinMode(trigPin,OUTPUT);

    pinMode(echoPin,INPUT);

    Serial.begin(9600);

    Serial.println("Distance measurement USing Arduino UNO ");

    delay(500);

}
```

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```
void loop() {  
    // put your main code here, to run repeatedly:]  
    digitalWrite(trigPin,LOW);  
    delayMicroseconds(2);  
    digitalWrite(trigPin,HIGH);  
    delayMicroseconds(10);  
    digitalWrite(trigPin,LOW);  
    duration = pulseIn(echoPin,HIGH);  
    distance = duration*0.0344/2;  
    Serial.print("Your distance from the sensor: ");  
    Serial.print(distance);  
    Serial.println("mm");  
    delay(100);  
}
```

Output:

```
Disensor: 3mm  
four distance from the sensor: 3mmDistance measurement Using Arduino UNO  
four distance from the sensor: 5mm  
four distance from the sensor: 6mm  
four distance from the sensor: 6mm  
four distance from the sensor: 6mm  
four distance from the sensor: 6mm  
four distance from the sensor: 6mm  
four distance from the sensor: 7mm  
four distance from the sensor: 6mm  
four distance from the sensor: 6mm  
four distance from the sensor: 6mm  
four distance from the sensor: 5mm  
four distance from the sensor: 5mm  
four distance from the sensor: 5mm  
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four distance from the sensor: 5mm  
four distance from the sensor: 6mm  
four distance from the sensor: 5mm  
four distance from the sensor: 5mm  
four distance from the sensor: 5mm  
four distance from the sensor: 5mm  
four distance from the sensor: 5mm  
four distance from the sensor: 5mm  
four distance from the sensor: 4mm  
four distance from the sensor: 4mm  
four distance from the sensor: 4mm  
four distance from the sensor: 5mm  
four distance from the sensor: 4mm  
four distance from the sensor: 5mm  
four distance from the sensor: 4mm  
four distance from the sensor: 5mm  
four distance from the sensor: 4mm  
four distance from the sensor: 5mm  
four distance from the sensor: 7mm  
four distance from the sensor: 9mm  
four distance from the sensor: 4mm
```