**ASSIGNMENT NO 01**

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**Name:-** **Dattatray Suresh Gatkal**

**Roll No:- 17**

**Batch:- A**

**Aim :-** Design and implement IoT system using Arduino Uno/ Raspberry Pi using 'Ultrasonic sensor and Servo motor' such as 'Door opener in home automation'.

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**Code :-**

// C++ code

//

#include <Servo.h>

Servo myservo;

const int trigPin = 4;

const int echopin = 2;

void setup()

{

Serial.begin(9600);

myservo.attach(9);

}

void loop()

{

long duration, cm;

pinMode(13, OUTPUT);

pinMode(trigPin, OUTPUT);

digitalWrite(trigPin, LOW);

delayMicroseconds(2);

digitalWrite(trigPin, HIGH);

delayMicroseconds(20);

digitalWrite(trigPin, LOW);

pinMode(echopin, INPUT);

duration = pulseIn(echopin, HIGH);

cm = microsecondsToCentimeters(duration);

if( cm < 100 )

{

digitalWrite(13, HIGH);

myservo.write(90);

delay(10);

}

else

{

digitalWrite(13,LOW);

myservo.write(0);

delay(10);

}

Serial.print(cm);

Serial.print("cm");

Serial.println();

delay(50);

}

long microsecondsToCentimeters(long microseconds)

{

return microseconds / 29 / 2;

}

**OUTPUT :-**

