**Assignment-1**

// C++ code

//

#include <Servo.h>

long readUltrasonicDistance(int triggerPin, int echoPin)

{

pinMode(triggerPin, OUTPUT); // Clear the trigger

digitalWrite(triggerPin, LOW);

delayMicroseconds(2);

// Sets the trigger pin to HIGH state for 10 microseconds

digitalWrite(triggerPin, HIGH);

delayMicroseconds(10);

digitalWrite(triggerPin, LOW);

pinMode(echoPin, INPUT);

// Reads the echo pin, and returns the sound wave travel time in microseconds

return pulseIn(echoPin, HIGH);

}

Servo servo\_3;

void setup()

{

pinMode(0, INPUT);

pinMode(13, OUTPUT);

pinMode(0, OUTPUT);

servo\_3.attach(3, 500, 2500);

pinMode(A5, INPUT);

pinMode(12, OUTPUT);

pinMode(A4, INPUT);

pinMode(11, OUTPUT);

}

void loop()

{

if (digitalRead(0) == 1) {

digitalWrite(13, HIGH);

} else {

digitalWrite(0, LOW);

}

if (0.01723 \* readUltrasonicDistance(1, 1) >= 100) {

servo\_3.write(90);

delay(1000); // Wait for 1000 millisecond(s)

} else {

servo\_3.write(0);

delay(1000); // Wait for 1000 millisecond(s)

}

if (analogRead(A5) <= 100) {

digitalWrite(12, HIGH);

} else {

digitalWrite(12, LOW);

}

if ((-40 + 0.488155 \* (analogRead(A4) - 20)) >= 30) {

digitalWrite(11, HIGH);

} else {

digitalWrite(11, LOW);

}

}