**Assignment -1**

Smart waste management System for Metropolitian cities

|  |  |
| --- | --- |
| Assignment Date | 13 September 2022 |
| Student Name | Aashiq A |
| Student Roll Number | 73771913101 |
| Maximum Marks | 2 Marks |

**Question 1:**

Make a Smart Dustbin in Tinker cad, using 2+sensors, Led, Buzzer in single code and circuit.

**Code:**

**const int pingPin = 10;**

**const int ledUS = 2;**

**const int light = 7;**

**const int pir = 4;**

**#definephotoSensor A0**

**#define buzzer 3**

**int const PINO\_SGAS = A5;**

**int constledGas = 8;**

**int const button = 5;**

**int const motor =13;**

**void setup()**

**{**

**pinMode(ledUS, OUTPUT);**

**pinMode(light, OUTPUT);**

**pinMode(buzzer, OUTPUT);**

**pinMode(ledGas, OUTPUT);**

**pinMode(motor, OUTPUT);**

**pinMode(pir, INPUT);**

**pinMode(button, INPUT);**

**pinMode(photoSensor, INPUT);**

**Serial.begin(9600);**

**}**

**void loop()**

**{**

**long duration, cm;**

**int valLight = analogRead(photoSensor);**

**int valPIR= digitalRead(pir);**

**int valGAS = analogRead(PINO\_SGAS);**

**valGAS = map(valGAS, 300, 750, 0, 100);**

**int valBt = digitalRead(button);**

**pinMode(pingPin, OUTPUT);**

**digitalWrite(pingPin, LOW);**

**delayMicroseconds(2);**

**digitalWrite(pingPin, HIGH);**

**delayMicroseconds(5);**

**digitalWrite(pingPin, LOW);**

**pinMode(pingPin, INPUT);**

**duration = pulseIn(pingPin, HIGH);**

**cm = microsecondsToCentimeters(duration);**

**if(cm < 336){**

**digitalWrite(ledUS, HIGH);**

**}else{**

**digitalWrite(ledUS, LOW);**

**}**

**if(valLight< 390){**

**digitalWrite(light, HIGH);**

**}else{**

**digitalWrite(light, LOW);**

**}**

**if(valPIR == 1){**

**digitalWrite(buzzer,HIGH);**

**}else{**

**digitalWrite(buzzer, LOW);**

**}**

**if(valBt == 1) {**

**digitalWrite(motor, HIGH);**

**}else{**

**digitalWrite(motor, LOW);**

**}**

**if(valGAS>20) {**

**digitalWrite(ledGas, HIGH);**

**}else{**

**digitalWrite(ledGas, LOW);**

**}**

**Serial.print(valPIR);**

**Serial.println();**

**}**

**long microsecondsToCentimeters(long microseconds) {**

**return microseconds / 29 / 2;**

**}**

**Circuit Diagram:**

