***#include <LiquidCrystal\_I2C.h>***

***#include <SoftwareSerial.h>***

SoftwareSerial **mySerial**(**10**, **11**);

LiquidCrystal\_I2C **lcd**(**0x27**, **16**, **2**); *// set the LCD address to 0x27 for a 16 chars and 2 line display*

**const** **int** trig\_1 = **2**;

**const** **int** echo\_1 = **3**;

**const** **int** trig\_2 = **4**;

**const** **int** echo\_2 = **5**;

**const** **int** trig\_3 = **6**;

**const** **int** echo\_3 = **7**;

**float** distanceCM\_1 = **0**, resultCM\_1 = **0**;

**float** distanceCM\_2 = **0**, resultCM\_2 = **0**;

**float** distanceCM\_3 = **0**, resultCM\_3 = **0**;

**long** Time\_1, Time\_2, Time\_3;

**float** car\_1, car\_2, car\_3;

**float** Dist\_1 = **8.0**, Dist\_2 = **8.0**, Dist\_3 = **8.0**;

**int** total = **0**, timer\_cnt = **0**;

**void** **setup**()

{

mySerial.begin(**115200**);

pinMode(trig\_1, OUTPUT);

pinMode(trig\_2, OUTPUT);

pinMode(trig\_3, OUTPUT);

pinMode(echo\_1, INPUT);

pinMode(echo\_2, INPUT);

pinMode(echo\_3, INPUT);

digitalWrite(trig\_1, LOW);

digitalWrite(trig\_2, LOW);

digitalWrite(trig\_3, LOW);

lcd.init();

lcd.backlight();

lcd.setCursor(**0**, **0**);

lcd.print(" IoT CAR PARK");

lcd.setCursor(**0**, **1**);

lcd.print(" MONITOR SYSTEM");

delay(**2000**);

lcd.clear();

}

**void** **loop**()

{

total = **0**;

car\_1 = sensor\_1();

car\_2 = sensor\_2();

car\_3 = sensor\_3();

lcd.setCursor(**0**, **0**);

lcd.print("CAR1:");

**if** (car\_1 <= Dist\_1)

{

lcd.print("OK ");

}

**else**

{

total += **1**;

}

**if** (car\_1 > Dist\_1) lcd.print("NO ");

lcd.print("CAR2:");

**if** (car\_2 <= Dist\_2)

{

lcd.print("OK ");

}

**else**

{

total += **1**;

}

**if** (car\_2 > Dist\_2) lcd.print("NO ");

lcd.setCursor(**0**, **1**);

lcd.print("CAR3:");

**if** (car\_3 <= Dist\_3)

{

lcd.print("OK ");

}

**else**

{

total += **1**;

}

**if** (car\_3 > Dist\_3) lcd.print("NO ");

lcd.print("FREE:");

lcd.print(total);

**if** (timer\_cnt >= **50**)

{

mySerial.print('\*');

mySerial.print(total);

mySerial .println('#');

timer\_cnt = **0**;

}

timer\_cnt += **1**;

delay(**200**);

}

**float** **sensor\_1**(**void**)

{

digitalWrite(trig\_1, HIGH);

delayMicroseconds(**10**);

digitalWrite(trig\_1, LOW);

Time\_1 = pulseIn(echo\_1, HIGH);

distanceCM\_1 = Time\_1 \* **0.034**;

**return** resultCM\_1 = distanceCM\_1 / **2**;

}

**float** **sensor\_2**(**void**)

{

digitalWrite(trig\_2, HIGH);

delayMicroseconds(**10**);

digitalWrite(trig\_2, LOW);

Time\_2 = pulseIn(echo\_2, HIGH);

distanceCM\_2 = Time\_2 \* **0.034**;

**return** resultCM\_2 = distanceCM\_2 / **2**;

}

**float** **sensor\_3**(**void**)

{

digitalWrite(trig\_3, HIGH);

delayMicroseconds(**10**);

digitalWrite(trig\_3, LOW);

Time\_3 = pulseIn(echo\_3, HIGH);

distanceCM\_3 = Time\_3 \* **0.034**;

**return** resultCM\_3 = distanceCM\_3 / **2**;

}

*// ----------(c) Electronics-project-hub-------- //*

***#include "ThingSpeak.h"***

***#include <ESP8266WiFi.h>***

*//------- WI-FI details ----------//*

**char** ssid[] = "SSID"; *//SSID here*

**char** pass[] = "PASSWORD"; *// Password here*

*//--------------------------------//*

*//----------- Channel details ----------------//*

**unsigned** **long** Channel\_ID =**123456**; *// Your Channel ID*

**const** **char** \* myWriteAPIKey = "ACBDE12345"; *//Your write API key*

*//-------------------------------------------//*

**const** **int** Field\_Number\_1 = **1**;

String value = "";

**int** value\_1 = **0**;

WiFiClient client;

**void** **setup**()

{

Serial.begin(**115200**);

WiFi.mode(WIFI\_STA);

ThingSpeak.begin(client);

internet();

}

**void** **loop**()

{

internet();

**if** (Serial.available() > **0**)

{

delay(**100**);

**while** (Serial.available() > **0**)

{

value = Serial.readString();

**if** (value[**0**] == '\*')

{

**if** (value[**2**] == '#')

{

value\_1 = value[**1**] - **0x30**;

}

}

}

}

upload();

}

**void** **internet**()

{

**if** (WiFi.status() != WL\_CONNECTED)

{

**while** (WiFi.status() != WL\_CONNECTED)

{

WiFi.begin(ssid, pass);

delay(**5000**);

}

}

}

**void** **upload**()

{

ThingSpeak.writeField(Channel\_ID, Field\_Number\_1, value\_1, myWriteAPIKey);

delay(**15000**);

value = "";

}

*//------- WI-FI details ----------//*

**char** ssid[] = "ATQQWER"; *//SSID here*

**char** pass[] = "IOTPARKING"; *// Password here*

*//--------------------------------//*

*//----------- Channel details ----------------//*

**unsigned** **long** Channel\_ID =**45788**; *// Your Channel ID*

**const** **char** \* myWriteAPIKey = "AQWERT4568"; *//Your write API key*

*//-------------------------------------------//*

