**Day 1 assignment:**

Write 20 use cases of Internet of things (IOT)

* Smart Factories.
* Smart Cities.
* Water Management.
* Digital Health.
* Smart Retail.
* Smart Workplace.
* Smart Homes.
* Home Intrusion detection system.
* Smart logistics.
* Smart Metering.
* Digital Twins.
* Autonomous and Connected vehicles.
* Smartwatches and fitness trackers.
* Drones.
* Smart automotive manufacturing.
* Collaborative Robotics.
* Computer vision.
* Digital thread.
* Cybersecurity.
* Clinical image analysis.

**Day 2 assignment:**

Develop an "Automatic garage door opening system". Use an Ultrasonic sensor to detect if there is a vehicle in front of the garage. if any vehicle is detected open the garage door (rotate the servo motor) for some time and close it.

**CODE**:

#define echo 2

#define trig 3

#include<Servo.h>

Servo gate;

void setup()

{

pinMode(echo,INPUT);

pinMode(trig,OUTPUT);

Serial.begin(9600);

}

void loop()

{

digitalWrite(trig,LOW);

delayMicroseconds(2);

digitalWrite(trig,HIGH);

delayMicroseconds(10);

digitalWrite(trig,LOW);

int dur,dis;

dur= pulseIn(echo,HIGH);

dis = dur\*0.034/2;

if(dis < 200 && dis >= 50)

{

gate.attach(7);

gate.write(90);

Serial.print("distance is");

Serial.println(dis);

}

else if(dis < 50)

{

gate.write(-90);

}

else

{

gate.write(0);

}

}