# ASSIGNMENT – I

**DOMAIN : IOT**

**TOPIC :** Make a smart home in Tinkercad, using 2+ sensors, LED, Buzzer in single code and circuit

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## CODE:

```cpp
// C++ Code
//
void setup()
{
  Serial.begin(9600);
  pinMode(3,INPUT);//Echo from ultrasonic sensor
  pinMode(4,OUTPUT); //Trigger for ultrasonic sensor
  pinMode(5,OUTPUT); //Output to servo motor
  pinMode(8,OUTPUT);//Green LED to indicate decrease in temperature
  pinMode(9,OUTPUT);//Blue LED to indicate increase in temperature
  pinMode(10,OUTPUT);//Red LED to indicate gas leakage
}

void loop()
{
  // Getting the data from the Temperature sensor
  double a = analogRead(A0);

  // Converting Analog value to Digital Value
  double Conv = (((a/1024)*5)-0.5)*100;
  Serial.println("The Temperature is :");
  Serial.println(Conv);
  Serial.println("**************************");
  delay(1000);
  if(Conv>30)
  {
    digitalWrite(9,HIGH);
    digitalWrite(8,LOW);
  }
  else
  {
    digitalWrite(8,HIGH);
```

```
   digitalWrite(9,LOW);
 }


 //Ultrasonic sensor
 digitalWrite(4,HIGH);
 digitalWrite(5,LOW);
 delayMicroseconds(10);
 digitalWrite(4,LOW);
 int time=pulseIn(3,HIGH);
 int distance=(time*0.034)/2;
 Serial.println("Distance is:");
 Serial.println(distance);
 if(distance<=20)
 {
   Serial.println("Person detected");
   digitalWrite(5,HIGH);
   delay(500);
 }
 else
 {
   digitalWrite(5,LOW);
   delay(500);
 }

 //Gas sensor
 int gas = analogRead(A3);
 Serial.println("The value of gas leakage is:");
 Serial.println(gas);
 int thres = 150;
 if(gas > thres)
 {
   digitalWrite(10,HIGH);
 }
}
```

Here, serial begin(9600) passes the value of 9600, that is to exchange messages at a data rate of 9600

Analog read – to read the value of the sensor

**Circuit :**