

ASSIGNMENT – 1

BUILD A SMART HOME IN THINKERCAD

Assignment date	26 September 2022
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Maximum Marks	2 Marks

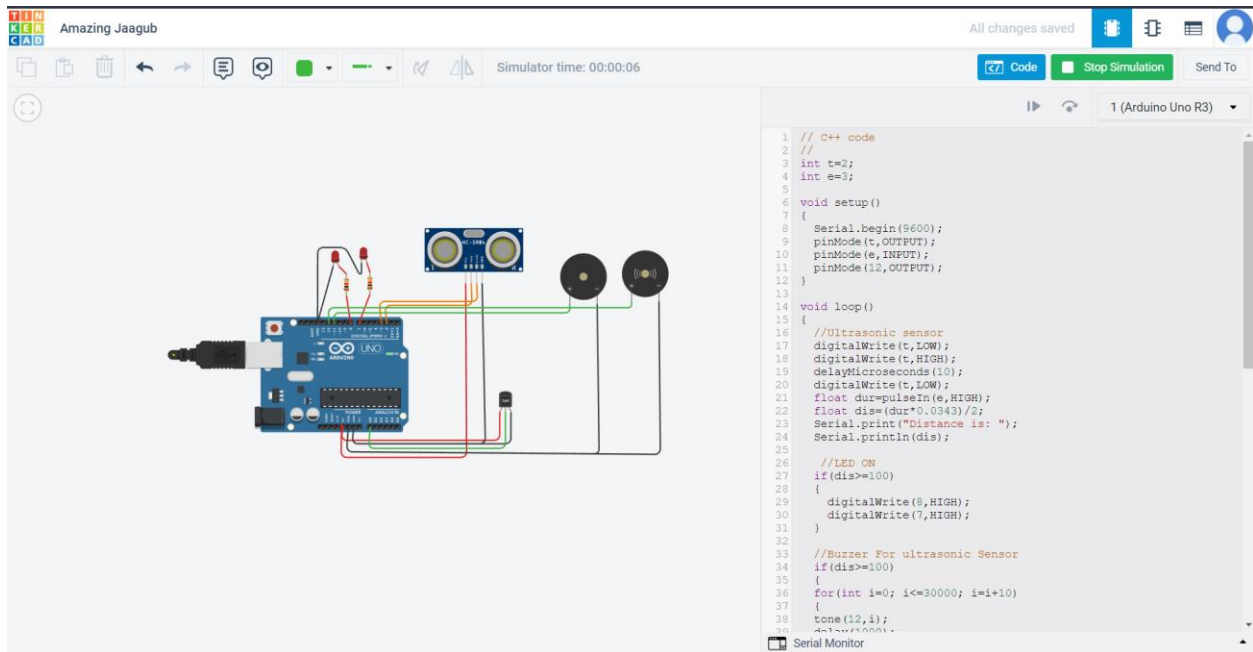
QUESTION -1:

Build a smart home in thinkercad

Use atleast 2 sensor, led, buzzer in a circuit. Stimulate in a single code.

Solution:

CIRCUIT:



CODE:

//

C++
code

```
//
int t=2;
int e=3;
void setup()
{
  Serial.begin(9600);
  pinMode(t,OUTPUT);
  pinMode(e,INPUT);
  pinMode(12,OUTPUT);
}
void loop()
{
  //Ultrasonic sensor
  digitalWrite(t,LOW);
  digitalWrite(t,HIGH);
  delayMicroseconds(10);
  digitalWrite(t,LOW);
  float dur=pulseIn(e,HIGH);
  float dis=(dur*0.0343)/2;
  Serial.print("Distance is: ");
  Serial.println(dis);

  //LED ON
  if(dis>=100)
  {
    digitalWrite(8,HIGH);
    digitalWrite(7,HIGH);
  }

  //Buzzer For ultrasonic Sensor
  if(dis>=100)
  {
    for(int i=0; i<=30000; i=i+10)
    {
      tone(12,i);
      delay(1000);
      noTone(12);
      delay(1000);
    }
  }
}
```

```

    //Temperate Sensor
    double a= analogRead(A0);
    double t=((a/1024)*5)-0.5)*100;
    Serial.print("Temp Value: ");
    Serial.println(t);
    delay(1000);

    //LED ON
    if(t>=100)
    {
        digitalWrite(8,HIGH);
        digitalWrite(7,HIGH);
    }

    //Buzzer for Temperature Sensor
    if(t>=100)
    {
        for(int i=0; i<=30000; i=i+10)
        {
            tone(12,i);
            delay(1000);
            noTone(12);
            delay(1000);
        }
    }

    //LED OFF
    if(t<100)
    {
        digitalWrite(8,LOW);
        digitalWrite(7,LOW);
    }
}

```