Assignment 1

Tinkercad Simulation

Assignment Date	12 September 2022
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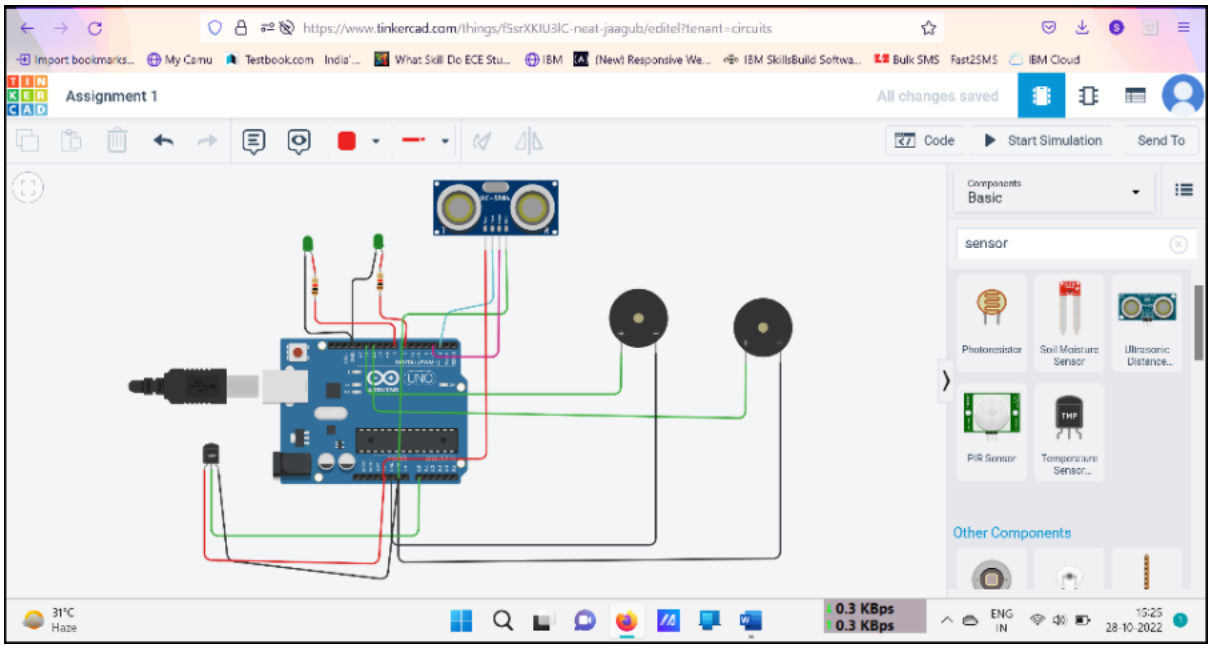
Maximum Marks	2 Marks

Question-1

Build a smart home in Tinkercad with 2 sensors, an Led, buzzer

Circuit:



Code :

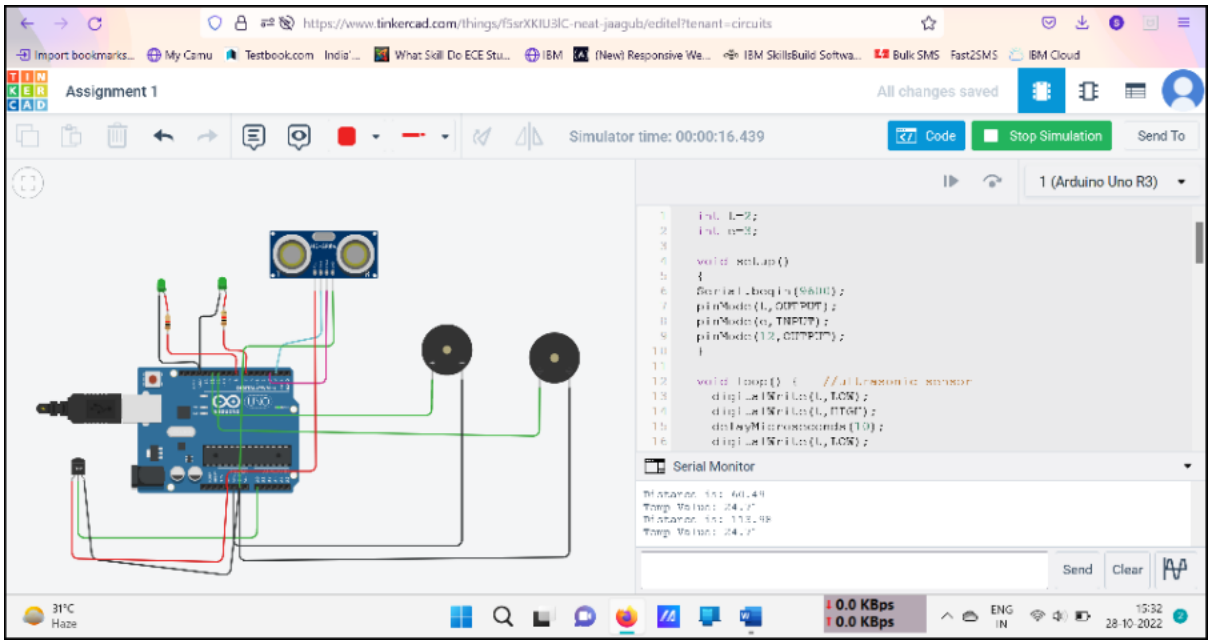
```
int t=2;
int e=3;

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>=60)//(in terms of centimeter)
{
 digitalWrite(8,HIGH);
   digitalWrite(7,HIGH);
  }

  //Buzzer For ultrasonic Sensor   if(dis>=60)
  {
  for(int i=0; i<=5; i=i+1)
  {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>=20)//(in terms of celsius)
{
  digitalWrite(8,HIGH);
  digitalWrite(7,HIGH);
}

//Buzzer for Temperature Sensor
if(t>=20)
{
for(int i=0; i<=5; i=i+1)
{tone(12,i);
 delay(1000);
 noTone(12);
 delay(1000);
```

```
  }
  }

   //LED OFF
  if(t<20)
  {
    digitalWrite(8,LOW);
    digitalWrite(7,LOW);
  }
}
```

Output :



Link:

https://www.tinkercad.com/things/f5srXKIU3lC