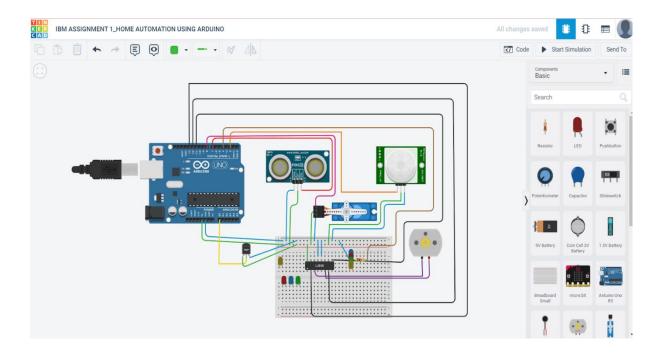
ASSIGNMENT 1

SMART HOME IN TINKERCAD

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CODE:

#include<Servo.h>

```
const int pingPin = 7;
int servoPin = 8;
Servo servo1;
void setup() {
 // initialize serial communication:
 Serial.begin(9600);
 servo1.attach(servoPin);
 pinMode(2,INPUT);
 pinMode(4,OUTPUT);
 pinMode(11,OUTPUT);
 pinMode(12,OUTPUT);
 pinMode(13,OUTPUT);
 pinMode(A0,INPUT);
 digitalWrite(2,LOW);
 digitalWrite(11,HIGH);
}
```

```
void loop() {
 long duration, inches, cm;
 pinMode(pingPin, OUTPUT);
 digitalWrite(pingPin, LOW);
 delayMicroseconds(2);
 digitalWrite(pingPin, HIGH);
 delayMicroseconds(5);
 digitalWrite(pingPin, LOW);
 // The same pin is used to read the signal from the PING))): a HIGH pulse
 // whose duration is the time (in microseconds) from the sending of the ping
 // to the reception of its echo off of an object.
 pinMode(pingPin, INPUT);
 duration = pulseIn(pingPin, HIGH);
 // convert the time into a distance
 inches = microsecondsToInches(duration);
 cm = microsecondsToCentimeters(duration);
 //Serial.print(inches);
 //Serial.print("in, ");
 //Serial.print(cm);
 //Serial.print("cm");
 //Serial.println();
 //delay(100);
 servo1.write(0);
 if(cm < 40)
  servo1.write(90);
  delay(2000);
 }
 else
  servo1.write(0);
 // PIR with LED starts
 int pir = digitalRead(2);
 if(pir == HIGH)
  digitalWrite(4,HIGH);
  delay(1000);
 else if(pir == LOW)
  digitalWrite(4,LOW);
 //temp with fan
```

```
float value=analogRead(A0);
 float temperature=value*0.48;
 Serial.println("temperature");
 Serial.println(temperature);
 if(temperature > 20)
  digitalWrite(12,HIGH);
  digitalWrite(13,LOW);
 else
  digitalWrite(12,LOW);
  digitalWrite(13,LOW);
}
}
long microsecondsToInches(long microseconds) {
 return microseconds / 74 / 2;
long microsecondsToCentimeters(long microseconds) {
 return microseconds / 29 / 2;
}
```