**ASSIGNMENT – 1**

BUILD A SMART HOME IN THINKERCAD

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| Assignment date | 26 September 2022 |
| Student Name | V C PRAVEEN |
| Student Roll Number | 815119106030 |
| Maximum Marks | 2 Marks |

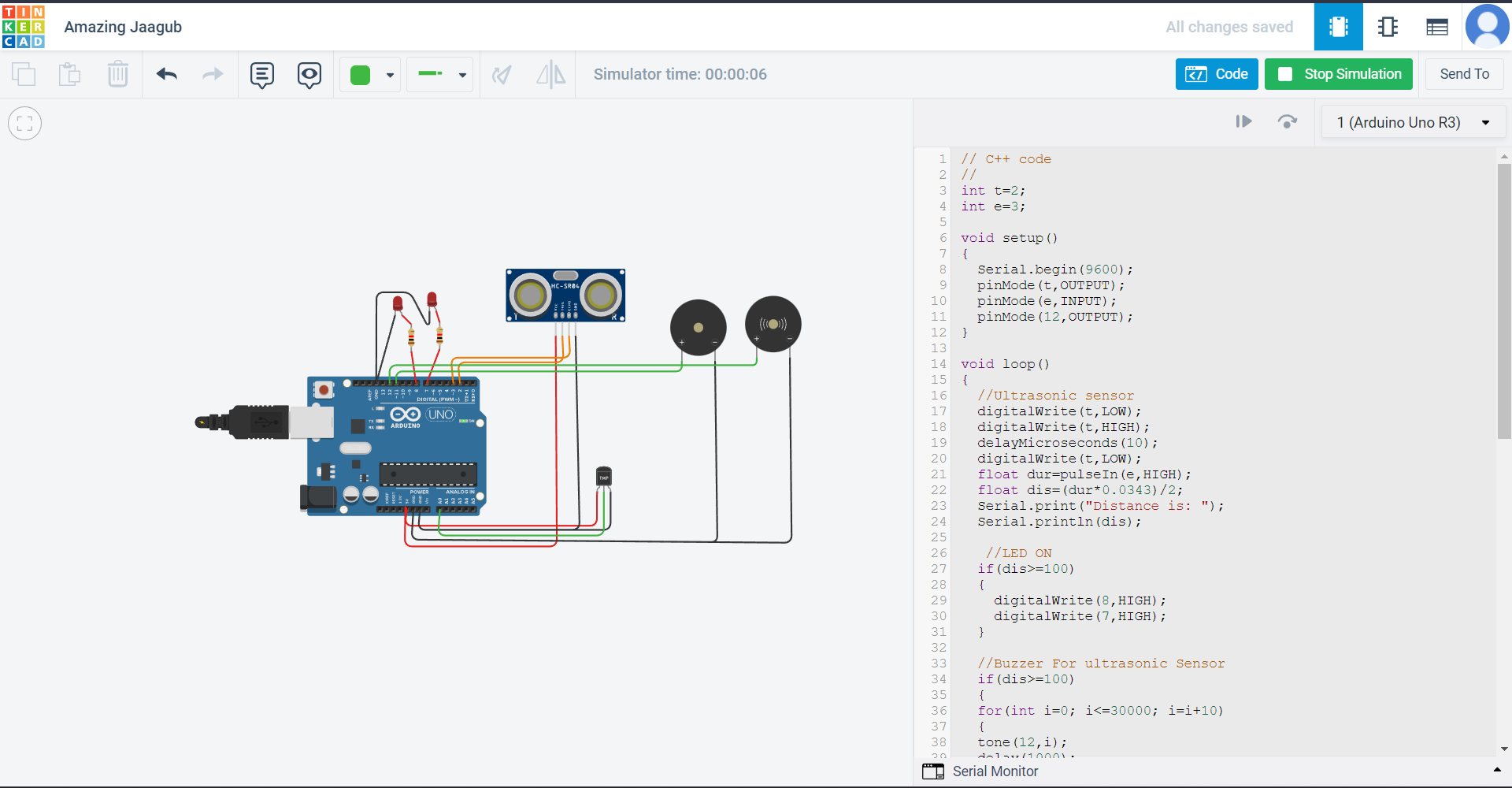
QUESTION -1:

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); |
|  | } |
|  | } |