Assignment Date	28 September 2022
Student Name	Mr. RAMANAN.E
Student Roll Number	812419104052
Maximum Marks	2 Marks

Questions:

Digital house using IOT:
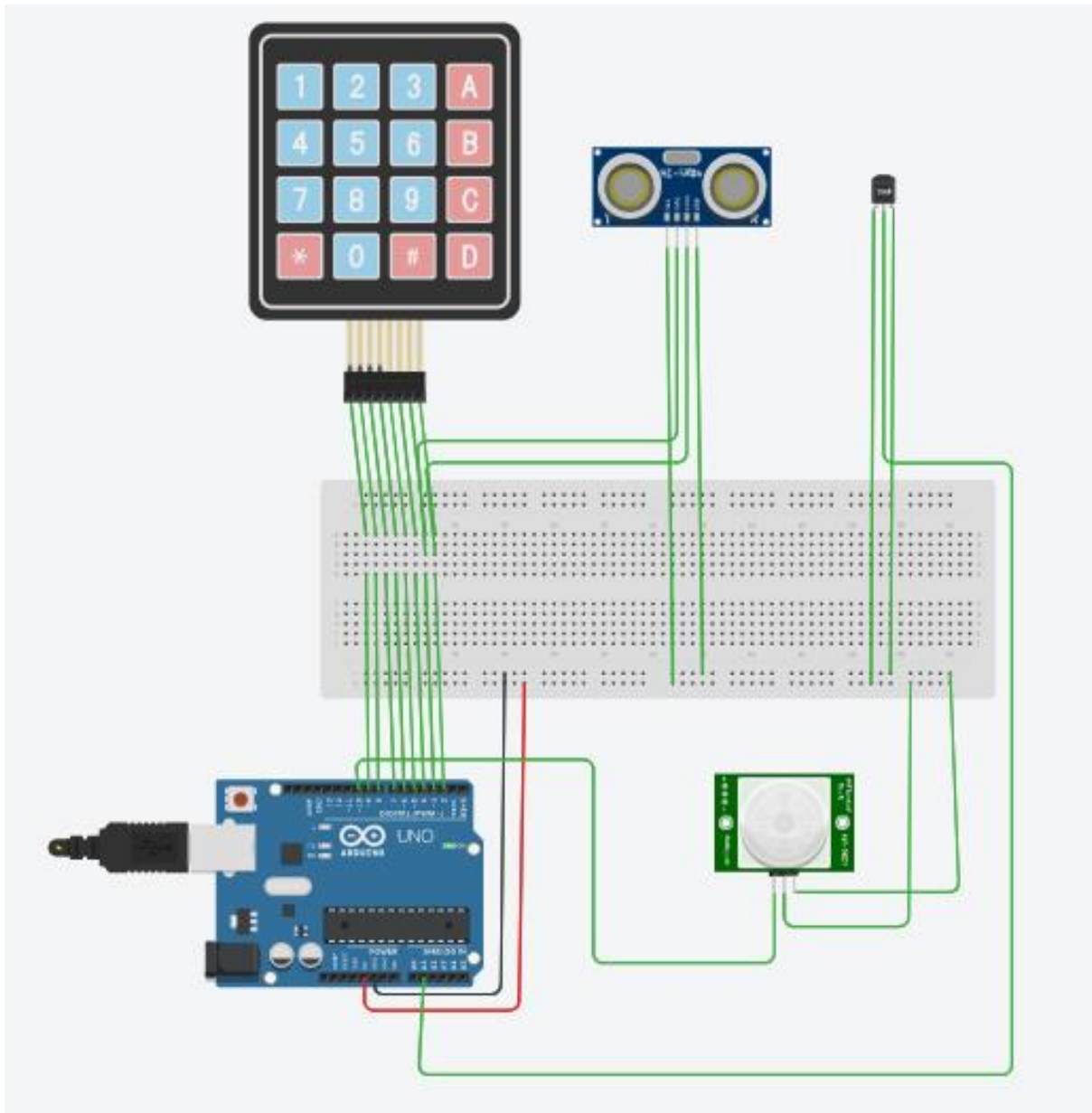
```cpp
#include <Keypad.h>

//Keypad is used as lock pin
//Temperature is used it to maintain room temperature
//PIR sensor is used to alert movement at night
//ultrasonic sensor is used to alert if dustbin is full

const byte ROWS = 4;
const byte COLS = 4;
int size = 0;
char hexaKeys[ROWS][COLS] = {
  {'1', '2', '3', 'A'},
  {'4', '5', '6', 'B'},
  {'7', '8', '9', 'C'},
  {'*', '0', '#', 'D'}
};
float Celsius, Fahrenheit, Kelvin;
byte rowPins[ROWS] = {9, 8, 7, 6};
byte colPins[COLS] = {5, 4, 3, 2};

Keypad customKeypad = Keypad(makeKeymap(hexaKeys), rowPins, colPins, ROWS, COLS);

void setup(){
  pinMode(3, OUTPUT); // Sets the trigPin as an OUTPUT
  pinMode(2, INPUT);
  Serial.begin(9600);
}

void GetTemp()
{
```

```
  int sensorValue = analogRead(A1);

  Kelvin = (((float(sensorValue) / 1023) * 5) * 100);

  Celsius = Kelvin-50;

  Fahrenheit = (Celsius * 1.8) +32;

}


void loop(){
  int passkey[4]={0,0,0,0},ans[4]={7,4,1,2},identity[4]={1,1,1,1};
  char customKey = customKeypad.getKey();


  if (customKey){
    Serial.println(customKey);
    Serial.println(ans[size]);
    if(customKey == ans[size]){
      Serial.println(size);
      passkey[size]=1;
    }
    Serial.println(passkey[size]);
    size++;
  }
  GetTemp();
Serial.print("Celsius: ");
Serial.println(Celsius);
Serial.print("Fahrenheit: ");
Serial.println(Fahrenheit);
Serial.println();
  digitalWrite(3, LOW);
  delayMicroseconds(2);
  // Sets the trigPin HIGH (ACTIVE) for 10 microseconds
  digitalWrite(3, HIGH);
```

```
  delayMicroseconds(10);

  digitalWrite(3, LOW);

  // Reads the echoPin, returns the sound wave travel time in microseconds

  long duration = pulseIn(2, HIGH);

  // Calculating the distance

  int distance = duration * 0.034 / 2; // Speed of sound wave divided by 2 (go and back)

  // Displays the distance on the Serial Monitor

  Serial.print("Distance: ");

  Serial.print(distance);

  Serial.println(" cm");

}
```