Assignment -1

Smart home automation

Assignment Date	16 September 2022
Student Name	Mr. Vishva
Student Roll Number	621319205059
Maximum Marks	2 Marks

Question-1:

Write a program in Thinkercard Make a smart home automation , using 2+ sensors , LED , Buzzer in a single code and circuit .

Program:

```
#include <SPI.h>
#include <Wire.h>
#include <IRremote.h>
const int relay_1 = 12;
const int relay_2 = 11;
const int relay_3 = 10;
const int relay_4 = 9;
const int mswitch_1 = 8;
const int mswitch_2 = 7;
const int mswitch_3 = 6;
const int mswitch_4 = 5;
int RECV_PIN = 3;
IRrecv irrecv(RECV_PIN);
decode_results results;
int toggleState_1 = 0;
int toggleState_2 = 0;
int toggleState_3 = 0;
int toggleState_4 = 0;
void setup()
 Serial.begin(9600);
 irrecv.enableIRIn();
 pinMode(relay_1, OUTPUT);
```

```
pinMode(relay 2, OUTPUT);
 pinMode(relay_3, OUTPUT);
 pinMode(relay_4, OUTPUT);
 pinMode(mswitch_1, INPUT_PULLUP);
 pinMode(mswitch_2, INPUT_PULLUP);
 pinMode(mswitch_3, INPUT_PULLUP);
 pinMode(mswitch_4, INPUT_PULLUP);
}
void relayOnOff(int relay)
  switch(relay)
  {
   case 1:
       if(toggleState_1 == 0){
       digitalWrite(relay_1, HIGH); // turn on relay 1
       toggleState_1 = 1;
       }
       else{
       digitalWrite(relay_1, LOW); // turn off relay 1
       toggleState_1 = 0;
       delay(100);
   break;
   case 2:
       if(toggleState_2 == 0){
       digitalWrite(relay_2, HIGH); // turn on relay 2
       toggleState 2 = 1;
       }
       else{
       digitalWrite(relay_2, LOW); // turn off relay 2
       toggleState_2 = 0;
       }
       delay(100);
   break;
   case 3:
       if(toggleState 3 == 0){
       digitalWrite(relay_3, HIGH); // turn on relay 3
       toggleState_3 = 1;
       }else{
       digitalWrite(relay_3, LOW); // turn off relay 3
       toggleState_3 = 0;
       delay(100);
```

```
break;
   case 4:
       if(toggleState_4 == 0){
       digitalWrite(relay_4, HIGH); // turn on relay 4
       toggleState_4 = 1;
       }
       else{
       digitalWrite(relay_4, LOW); // turn off relay 4
       toggleState_4 = 0;
       }
       delay(100);
   break;
   default : break;
   }
}
void loop() {
  if (digitalRead(mswitch_1) == LOW){
   delay(200);
   relayOnOff(1);
  else if (digitalRead(mswitch_2) == LOW){
   delay(200);
   relayOnOff(2);
  else if (digitalRead(mswitch_3) == LOW){
   delay(200);
   relayOnOff(3);
  else if (digitalRead(mswitch_4) == LOW){
   delay(200);
   relayOnOff(4);
  }
   if (irrecv.decode(&results)) {
    switch(results.value){
     case 0xFD08F7:
           relayOnOff(1);
     break;
     case 0xFD8877:
           relayOnOff(2);
     break;
     case 0xFD48B7:
```

```
relayOnOff(3);
                   break;
                   case 0xFD28D7:
                        relayOnOff(4);
                   break;
                   default : break;
               irrecv.resume();
               }
               }
   Home Automation
                                                                                     All changes saved
Code Start Simulation
                                                                                             Componer
Basic
                                                                                                          - ≣
                                                                                            Search
                                                                                                          0
                                                                                                        Pushbutton
                                                                                            3
                                                                                                        1.5V Battery
                                                                                                   DC Motor Micro Servo
```