**Assignment -1**

Thinkercad Programming

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| Assignment Date | 19 September 2022 |
| Student Name | Ms. SNEHA |
| Student Roll Number | AC19UCS123 |
| Maximum Marks | 2 Marks |

**Question-1:**

Assignment: Make a smart home with 2-3 sensors, LED , Buzzer. in single code and connections. submit it in the platform, any doubts ask in chat with mentor option

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| **Solution:** |
|  | #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();  }  } |
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