ASSIGNMENT 1

MAHENDRA ENGINEERING COLLEGE FOR WOMEN

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CLASS:4 YEAR ECE

SUBJECT:IBM

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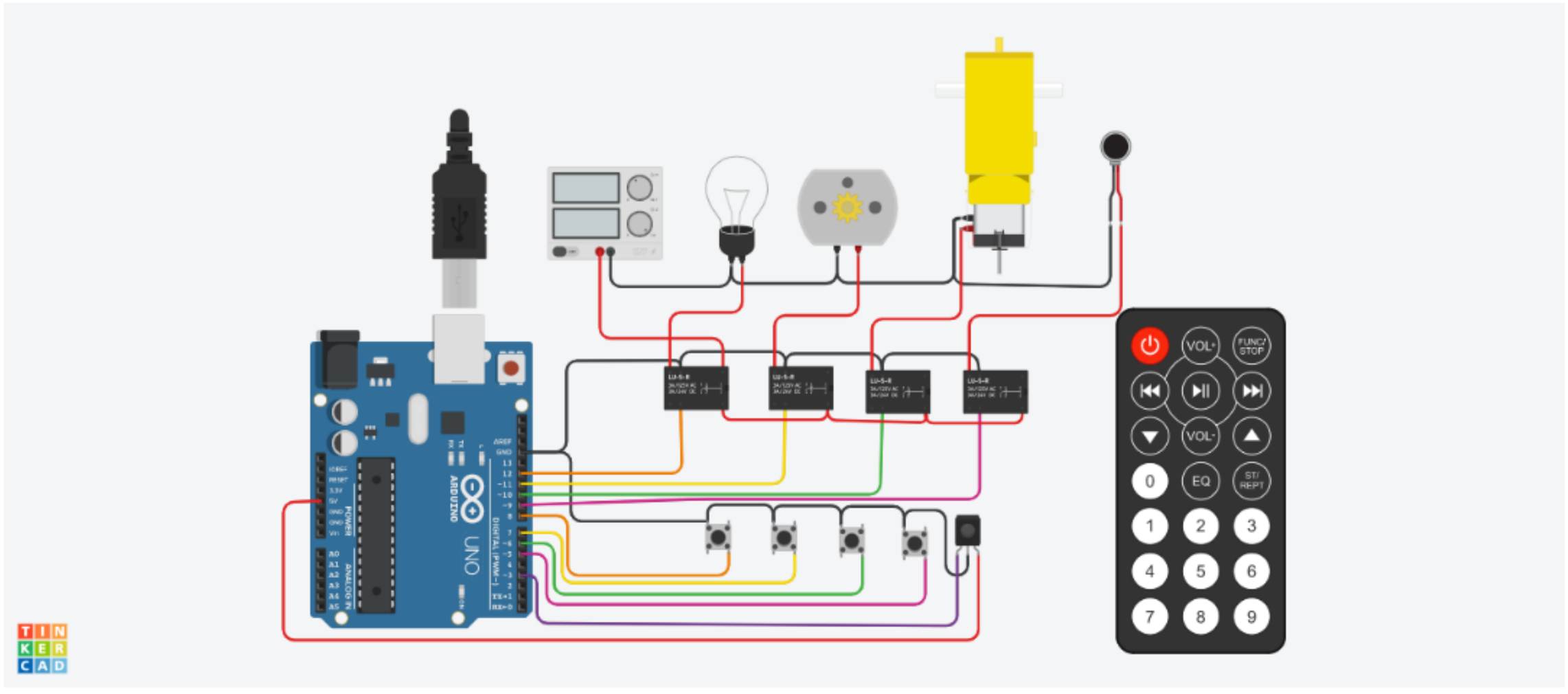
DESIGN PART



CODING PART

```
#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();
   }
}
```