ASSIGNMENT 1

MAHENDRA ENGINEERING COLLEGE FOR WOMEN

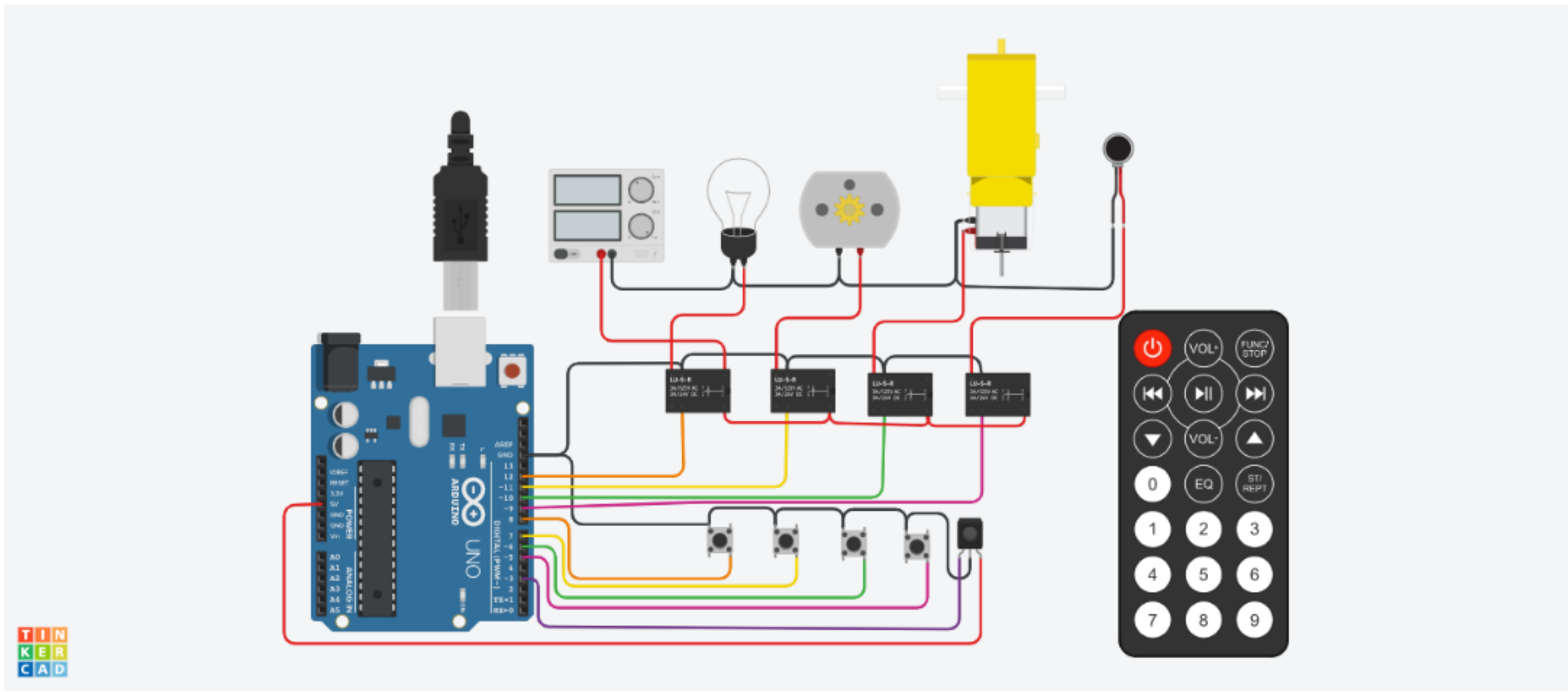
NAME: A.MANISHA

CLASS:4 YEAR CSE

SUBJECT:IBM

REGISTER NO:611419104042

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();
```

```
    }
  }
}
```