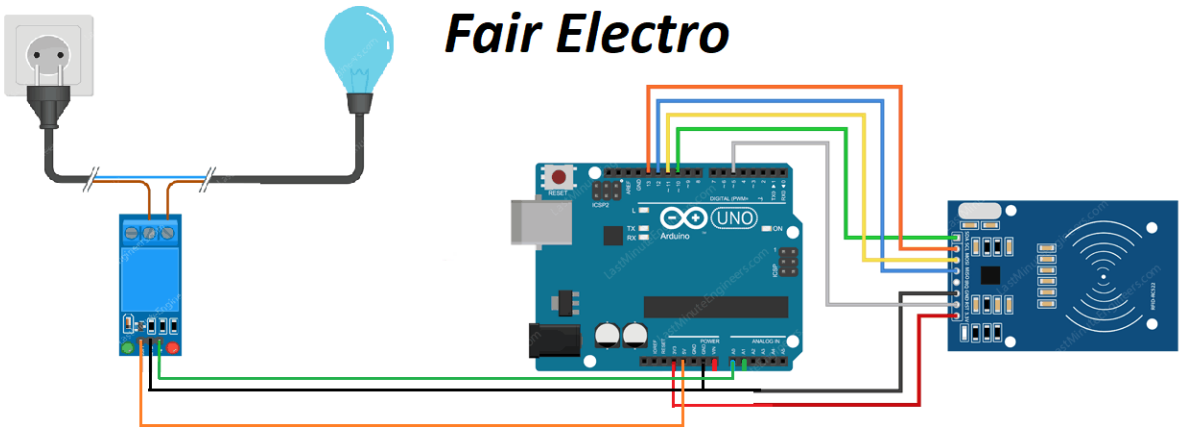
Project -1



Today we will learn how to make smart switch for Bulb or any type of Motor. We are using relay module for switching. RFID reader is used to read card information. RFID switch can be used for any home appliances as touch less Switch.

Code:-

```
#define r1 A0
int relay1 = LOW;

#include <SPI.h>
#include <MFRC522.h>

#define SS_PIN 10
#define RST_PIN 9
MFRC522 mfrc522(SS_PIN, RST_PIN);   // Create MFRC522 instance.

void setup()
{
  pinMode(r1, OUTPUT);

  Serial.begin(9600);   // Initiate a serial communication
  SPI.begin();      // Initiate  SPI bus
```

```
  mfrc522.PCD_Init();   // Initiate MFRC522
  Serial.println("Approximate your card to the reader...");
  Serial.println();

}
void loop()
{
  // Look for new cards
  if ( ! mfrc522.PICC_IsNewCardPresent())
  {
    return;
  }
  // Select one of the cards
  if ( ! mfrc522.PICC_ReadCardSerial())
  {
    return;
  }
  //Show UID on serial monitor
  Serial.print("UID tag :");
  String content = "";
  byte letter;
  for (byte i = 0; i < mfrc522.uid.size; i++)
  {
    Serial.print(mfrc522.uid.uidByte[i] < 0x10 ? " 0" : " ");
    Serial.print(mfrc522.uid.uidByte[i], HEX);
    content.concat(String(mfrc522.uid.uidByte[i] < 0x10 ? " 0" : " "));
    content.concat(String(mfrc522.uid.uidByte[i], HEX));
  }
  Serial.println();
  Serial.print("Message : ");
  content.toUpperCase();
  if ((content.substring(1) == "D3 5F 2C 2E") || (content.substring(1) == "C1
FA 84 19")) //change here the UID of the card/cards that you want to give
access
  {
    Serial.println("Authorized access");
    Serial.println();
    relay1 = ~ relay1;
    digitalWrite(r1, relay1);
    delay(500);
  }

  else   {
    Serial.println(" Access denied");
    delay(3000);
  }
}
```

About:-

Here when we show the card to the RFID reader it will read the code and pass it to the Arduino uno and Arduino check the code if the card number is allowed it will pass a high message to the relay and the relay turns on (relay is like a switch)