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#include <RFID.h>
#include <Wire.h>  /   / i2C Conection Library
#include <LiquidCrystal_I2C.h>  //Memanggil i2C LCD Library
LiquidCrystal_I2C lcd(0x27, 16, 2);
/*
Sambungan Module RFID RC-522 ke Arduino
* MOSI: Pin 11
* MISO: Pin 12
* SCK : Pin 13
* SS/SDA: Pin 10
* RST: Pin 9
* RQ: Tidak digunakan
*/
#include <SPI.h>
#include <RFID.h>
#define SS_PIN 10
#define RST_PIN 9
RFID rfid(SS_PIN,RST_PIN);
unsigned int doorlock=0;
const int buzzer = 7;   //Passive buzzer ke Pin D7 dan GND
const int doorlock1 = 2;//Driver Selenoid Door Lock/Relay input ke pin D2
const int doorlock2 = 3;
const int doorlock3 = 4;
int NoPintu =0;
int serNum[5];        //Variable buffer Scan Card
int cards[][5] = {     //ID Kartu yang diperbolehkan masuk
{161, 237, 90, 26, 12}, // Loker 1
{145, 206, 164, 26, 225}, // Loker 2
{161, 13, 149, 26, 35}, // Loker 3
};
bool access = false;
int alarm = 0;
uint8_t alarmStat = 0;
uint8_t maxError = 5;

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void setup(){
   Serial.begin(115200);
   lcd.begin();
   SPI.begin();
   rfid.init();
```

```arduino
  pinMode(doorlock1, OUTPUT);
  digitalWrite(doorlock1, HIGH);
  pinMode(doorlock2, OUTPUT);
  digitalWrite(doorlock2, HIGH);
  pinMode(doorlock3, OUTPUT);
  digitalWrite(doorlock3, HIGH);

 tone (buzzer,1200);
 lcd.setCursor (0,0);
 lcd.print(F("  RFID System   "));
 lcd.setCursor (0,1);
 lcd.print(F(" Control Access "));
 delay (2000);
 lcd.clear();
 noTone (buzzer);
}

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void loop(){
 if (alarm >= maxError){
   alarmStat = 1;
 }
 if (alarmStat == 0){
 lcd.setCursor (0,0);
 lcd.print("     Hello          ");
 lcd.setCursor (0,1);
 lcd.print(" Scan Kartu Anda ");

   if(rfid.isCard()){
      if(rfid.readCardSerial()){
         Serial.print(rfid.serNum[0]);
         Serial.print(" ");
         Serial.print(rfid.serNum[1]);
         Serial.print(" ");
         Serial.print(rfid.serNum[2]);
         Serial.print(" ");
         Serial.print(rfid.serNum[3]);
         Serial.print(" ");
         Serial.print(rfid.serNum[4]);
         Serial.println("");

         for(int x = 0; x < sizeof(cards); x++){
```

```cpp
      for(int i = 0; i < sizeof(rfid.serNum); i++ ){
        if(rfid.serNum[i] != cards[x][i]) {
          access = false;
          break;
        } else {
          access = true;
        }
      }
    if(access) {

        NoPintu=x ; // index x = 0 + 2 = 2
        doorlock = x + 2 ;
        break;
      }
    }

if(access){
  Serial.println("Welcome!");
  lcd.setCursor (0,0);
  lcd.print(F(" Akses diterima "));
  lcd.setCursor (0,1);
  lcd.print("> Loker Terbuka -");
   doorlock = NoPintu + 2;                 //program unto merubah index menjadi pin output
   //Serial.println(doorlock);
   digitalWrite(doorlock, LOW);
   tone (buzzer,900);
   delay(100);
   tone (buzzer,1200);
   delay(100);
   tone (buzzer,1800);
   delay(200);
   noTone(buzzer);
   delay(600);
  lcd.setCursor (0,0);
  lcd.print(F("   Loker Akan    "));
  lcd.setCursor (0,1);
  lcd.print(F("   Terkunci    "));
  for(int i=5; i>0; i--){
   lcd.setCursor (13,1); lcd.print(i);
   delay (1000);
  }
  digitalWrite(doorlock, HIGH);
  lcd.clear();
  alarm=0;
```

```
      } else {
          alarm = alarm+1;
          Serial.println("Not allowed!");
          lcd.setCursor (0,0);
          lcd.print(F("  Akses ditolak  "));
          lcd.setCursor (0,1);
          lcd.print(">  Kartu Salah     ");

          tone (buzzer,900);
          delay(200);
          noTone(buzzer);
          delay(200);
          tone (buzzer,900);
          delay(200);
          noTone (buzzer);
          delay(500);
          lcd.clear();
       }
      }
     }

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    rfid.halt();
}
else {
  lcd.setCursor (0,0);
  lcd.print(F("> System LOCKED < "));
  lcd.setCursor (0,1);
  lcd.print(F(" Please Wait "));
for(int i=5; i>0; i--){
tone (buzzer,1800);
lcd.setCursor (13,1); lcd.print(i);
lcd.print(F("  "));delay (1000);}
noTone (buzzer);
alarmStat = 0;
alarm = 0;
 }
}
```