

LIST PROGRAM

```
/*
```

```
PINOUT:
```

```
RC522 MODULE  Uno/Nano  MEGA
```

```
SDA      D10      D9
```

```
SCK      D13      D52
```

```
MOSI     D11      D51
```

```
MISO     D12      D50
```

```
IRQ      N/A      N/A
```

```
GND      GND      GND
```

```
RST      D9       D8
```

```
3.3V     3.3V     3.3V
```

```
*/
```

```
#include <SPI.h>
```

```
#include <Wire.h>
```

```
#include <LiquidCrystal_I2C.h>
```

```
#include <Servo.h>
```

```
#include <RFID.h>
```

```
Servo myservo;
```

```
#define I2C_ADDR 0x3F // <<- Add your address here.
```

```
#define Rs_pin 0
```

```
#define Rw_pin 1
```

```
#define En_pin 2

#define BACKLIGHT_PIN 3

#define D4_pin 4

#define D5_pin 5

#define D6_pin 6

#define D7_pin 7

#define cw 0

#define ccw 1

#define brake 2

/* Define the DIO used for the SDA (SS) and RST (reset) pins. */

#define SDA_DIO 9

#define RESET_DIO 8

/* Create an instance of the RFID library */

RFID RC522(SDA_DIO, RESET_DIO);

LiquidCrystal_I2C
lcd(I2C_ADDR,En_pin,Rw_pin,Rs_pin,D4_pin,D5_pin,D6_pin,D7_pin);

int inApin[2] = {2, 5}; // INA: Clockwise input

int inBpin[2] = {3, 6}; // INB: Counter-clockwise input

int pwmpin[2] = {4, 7}; // PWM input

byte card_id;
```

```
int id,sensor1,sensor2,sensor3,data;

void setup() {
  Serial.begin(9600);
  Wire.begin();
  SPI.begin(); // Init SPI bus
  RC522.init();

  for (int i=0; i<2; i++)
  {
    pinMode(inApin[i], OUTPUT);
    pinMode(inBpin[i], OUTPUT);
    pinMode(pwmpin[i], OUTPUT);
  }
  for (int i=0; i<2; i++)
  {
    digitalWrite(inApin[i], LOW);
    digitalWrite(inBpin[i], LOW);
  }

  myservo.attach(22);
  pinMode(23, INPUT_PULLUP);

  lcd.begin (16,2); // <<-- our LCD is a 16x2, change for your LCD if needed
  // LCD Backlight ON
```

```
lcd.setBacklightPin(BACKLIGHT_PIN,POSITIVE);

lcd.setBacklight(HIGH);

lcd.home (); // go home on LCD

lcd.setCursor (0,0);

lcd.print("Vertikal Parking");

lcd.setCursor (0,1);

lcd.print("==Polsri ==");

}

void loop() {

  int button1 = digitalRead(23);

  if (button1 == LOW){

    kartu_out();

    Serial.println("buka");

  }

  rfid_scan();

  sensor();

  // motorGo(0,ccw,255);

}

void rfid_scan()

{

  if (RC522.isCard())

  {

    /* If so then get its serial number */
```

```

RC522.readCardSerial();

Serial.println("Card detected:");

for(int i=0;i<5;i++)
{
// Serial.print(RC522.serNum[i],DEC);
    card_id = RC522.serNum[i],DEC;
// Serial.println(card_id);

    //Serial.print(RC522.serNum[i],HEX); //to print card detail in Hexa Decimal
format
}

lcd.clear();

lcd.setCursor (0,0);

lcd.print("ID : ");lcd.print(RC522.serNum[1]);

lcd.setCursor (0,1);

lcd.print("Place : ");

sensor();

//219,164,70,11,131,37,95,143

if (RC522.serNum[1] == 219){

    lcd.print("Room 1");

    open_gate();

    do{

        motorGo(0,ccw,255);

        sensor();

    }
}

```

```
while(data!=1);

motorGo(0,ccw,0);

delay(2000);

close_gate();

}

else if (RC522.serNum[1] == 164){

lcd.print("Room 2");

open_gate();

do{

motorGo(0,ccw,255);

sensor();

}

while(data!=2);

motorGo(0,ccw,0);

delay(2000);

close_gate();

}

else if (RC522.serNum[1] == 70){

lcd.print("Room 3");

open_gate();

do{

motorGo(0,ccw,255);

sensor();

}

while(data!=3);
```

```
    motorGo(0,ccw,0);  
    delay(2000);  
    close_gate();  
}  
else if (RC522.serNum[1] == 11){  
    lcd.print("Room 4");  
    open_gate();  
    do{  
        motorGo(0,ccw,255);  
        sensor();  
    }  
    while(data!=4);  
    motorGo(0,ccw,0);  
    delay(2000);  
    close_gate();  
}  
else if (RC522.serNum[1] == 131){  
    lcd.print("Room 5");  
    open_gate();  
    do{  
        motorGo(0,ccw,255);  
        sensor();  
    }  
    while(data!=5);  
    motorGo(0,ccw,0);
```

```
    delay(2000);
    close_gate();
}
else if (RC522.serNum[1] == 37){
    lcd.print("Room 6");
    open_gate();
    do{
        motorGo(0,ccw,255);
        sensor();
    }
    while(data!=6);
    motorGo(0,ccw,0);
    delay(2000);
    close_gate();
}
else if (RC522.serNum[1] == 95){
    lcd.print("Room 7");
    open_gate();
    do{
        motorGo(0,ccw,255);
        sensor();
    }
    while(data!=7);
    motorGo(0,ccw,0);
    delay(2000);
```



```
        close_gate();
    }

    Serial.println();
    Serial.println(RC522.serNum[1]);
}
delay(1000);
}
void display_lcd()
{
    lcd.clear();
    lcd.setCursor (0,0);
    lcd.print("Power Monitoring");
    delay(100);
}

void close_gate(){
    myservo.write(100);
}

void open_gate(){
    myservo.write(30);
}

void sensor()
```

```

{
    sensor1 = analogRead(A0)<600?1:0;
    sensor2 = analogRead(A1)<600?1:0;
    sensor3 = analogRead(A2)<600?1:0;

    Serial.print(sensor1);Serial.print(",");Serial.print(sensor2);Serial.print(",");Serial.p
rintln(sensor3);

    Serial.print(analogRead(A0));Serial.print(",");Serial.print(analogRead(A1));Serial
.print(",");Serial.println(analogRead(A2));

    data = sensor1*1+sensor2*2+sensor3*4;
    // data &=0b111;

    Serial.println(data);
}

void motorGo(int motor, int direct, int pwm)
{
    if (motor <= 2)
    {
        if (direct == 0)
        {
            digitalWrite(inApin[motor], HIGH);
            digitalWrite(inBpin[motor], LOW);
        }
        else if (direct == 1)
        {

```

```
    digitalWrite(inApin[motor], LOW);  
    digitalWrite(inBpin[motor], HIGH);  
  }  
}  
analogWrite(pwmpin[motor], pwm);  
}
```

```
void kartu_out(){  
    digitalWrite(inApin[1], HIGH);  
    digitalWrite(inBpin[1], LOW);  
    analogWrite(pwmpin[1], 50);  
    delay(1000);  
    digitalWrite(inApin[1], LOW);  
    digitalWrite(inBpin[1], LOW);  
    analogWrite(pwmpin[1], 50);  
    delay(1000);  
    digitalWrite(inApin[1], LOW);  
    digitalWrite(inBpin[1], HIGH);  
    analogWrite(pwmpin[1], 50);  
    delay(1000);  
    digitalWrite(inApin[1], LOW);  
    digitalWrite(inBpin[1], LOW);  
    analogWrite(pwmpin[1], 50);  
}
```