```
#define ANALOG_PIN 0
int Pin2 =  2;
int Pin3 =  3;
int Pin4  = 4;
int Pin5  = 5;
int Pin6  = 6;
int  Ventrada = 0 ;
float  Temperatura = 0;
int x;

void setup()   {
  Serial.begin(9600);
  pinMode(Pin2, OUTPUT);
  pinMode(Pin3, OUTPUT);
  pinMode(Pin4, OUTPUT);
  pinMode(Pin5, OUTPUT);
  pinMode(Pin6, OUTPUT);
}
/*****************************************************************/
/*             Função para leitura de Temperatura                */
/*****************************************************************/
int temp(){
  Ventrada = analogRead (ANALOG_PIN);
  Temperatura=(500*Ventrada)/1023;
  if((Temperatura>=0)&&(Temperatura<=50)){
  return Temperatura;
  }
}
/*****************************************************************/
/*            Inicio Programa Principal                          */
/*****************************************************************/
void loop(){
  char caracter;
  caracter = Serial.read();

  //se pressionado "v" liga a luz
  if(caracter == 'v')
  {
    digitalWrite(Pin2, HIGH);
  }
  //se pressionado "a" desliga a luz
  else if(caracter == 'a')
  {
    digitalWrite(Pin2, LOW);
  }
  else
    //Se pressionado "z" fecha o portao
    if(caracter == 'z')
    {
      digitalWrite(Pin3, HIGH);

    }
    else
      //Se pressionado "l" abre o portao
      if(caracter == 'l')
      {
        digitalWrite(Pin4, HIGH);
      }
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    else{
      digitalWrite(Pin3, LOW);
      digitalWrite(Pin4, LOW);
    }
/*****************************************************/
/*              controle temperatura                 */
/*****************************************************/
  if(caracter =='0'){
     if(temp()>5){
       digitalWrite(Pin6, HIGH);
       x = 5;
     }else{
       digitalWrite(Pin5, HIGH);
       x = 5;
     }
    }else
     if(caracter =='1'){
       if(temp()>10){
         digitalWrite(Pin6, HIGH);
         x = 10;
       }else{
         digitalWrite(Pin5, HIGH);
       x = 10;
     }
     }else
     if(caracter =='2'){
       if(temp()>15){
         digitalWrite(Pin6, HIGH);
         x = 15;
       }else{
         digitalWrite(Pin5, HIGH);
       x = 15;
      }
     }else
     if(caracter =='3'){
       if(temp()>20){
         digitalWrite(Pin6, HIGH);
         x = 20;
       }else{
         digitalWrite(Pin5, HIGH);
       x = 20;
      }
     }else
     if(caracter =='4'){
       if(temp()>25){
         digitalWrite(Pin6, HIGH);
         x = 25;
       }else{
         digitalWrite(Pin5, HIGH);
       x = 25;
      }
     }else
     if(caracter =='5'){
       if(temp()>30){
         digitalWrite(Pin6, HIGH);
         x = 30;
       }else{
         digitalWrite(Pin5, HIGH);
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       x = 30;
      }
     }else
     if(caracter =='6'){
       if(temp()>35){
         digitalWrite(Pin6, HIGH);
         x = 35;
       }else{
         digitalWrite(Pin5, HIGH);
       x = 35;
      }
     }else
     if(caracter =='7'){
       if(temp()>40){
         digitalWrite(Pin6, HIGH);
         x = 40;
       }else{
         digitalWrite(Pin5, HIGH);
       x = 40;
      }
     }else
     if(caracter =='8'){
       if(temp()>45){
         digitalWrite(Pin6, HIGH);
         x = 45;
       }else{
         digitalWrite(Pin5, HIGH);
       x = 45;
      }
     }else
     if(caracter =='9'){
       if(temp()>50){
         digitalWrite(Pin6, HIGH);
         x = 50;
       }else{
         digitalWrite(Pin5, HIGH);
       x = 50;
      }
     }else
     if (caracter =='*') {
       digitalWrite(Pin6, LOW);
       digitalWrite(Pin5, LOW);
     }
 /*********************Fim do bloco Principal*******************/
/*********************IF de controle de Temperatura************/
    if(temp()==x){
     digitalWrite(Pin5, LOW);
     digitalWrite(Pin6, LOW);
      x=0;
    }

    if((temp()>=0) && (temp()<=51)){
      Serial.println(temp());
   }
  delay(1000);
}
/*********************Fim do Programa************/
```