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Problem Statement:

Temperature warning system

- Use the LM35 to measure the current air temperature and print the readings in Centigrade (°C) on the serial monitor.
- Use the IR receiver (IR1383) to set a temperature threshold using your remote control. You should assume that the user will enter any number of digits and then click the "OK button" to set the threshold.
- If the temperature exceeds this threshold) , a buzzer and an LED must turn ON. If it drops below (threshold -1) then the LED and buzzer should stop.

Implementation:

```
#include <IRremote.h>
#include <NewTone.h>


#define recPin 3
#define buzzerPin 2
#define ledPin 13

IRrecv irrecv(recPin);
decode_results results;

unsigned long lastPrintTime = 0;
String threshold = "";
String sensorThreshold = "0";
int remoteInputLength  = 0;


void setup(){
  pinMode(ledPin, OUTPUT);
  pinMode(recPin, INPUT);
  pinMode(buzzerPin, OUTPUT);
  irrecv.enableIRIn();
  Serial.begin(9600);
  }

```

```
void loop(){
  float analogValue = analogRead(A0);
  float mv = (analogValue / 1023) * 5000;
  float celsius = mv / 10;



 if(irrecv.decode(&results)){

  long remoteInVal = results.value;

  irrecv.resume();

  switch(remoteInVal){
    case 33444015 : threshold.concat("1"); remoteInputLength ++; break;
    case 33478695 : threshold.concat("2"); remoteInputLength ++; break;
    case 33486855 : threshold.concat("3"); remoteInputLength ++; break;
    case 33435855 : threshold.concat("4"); remoteInputLength ++; break;
    case 33468495 : threshold.concat("5"); remoteInputLength ++; break;
    case 33452175 : threshold.concat("6"); remoteInputLength ++; break;
    case 33423615 : threshold.concat("7"); remoteInputLength ++; break;
    case 33484815 : threshold.concat("8"); remoteInputLength ++; break;
    case 33462375 : threshold.concat("9"); remoteInputLength ++; break;
    case 33480735 : threshold.concat("0"); remoteInputLength ++; break;
    case 33431775 : threshold.remove(remoteInputLength - 1); remoteInputLength --; break;
    case 33441975 :
                    sensorThreshold = threshold;
                    threshold = "";
                    break;
    default : break;

  }
 }

```

```
  if(celsius > sensorThreshold.toInt()){
    digitalWrite(ledPin, HIGH);
    NewTone(buzzerPin, 3000);


  }
  else{
    digitalWrite(ledPin, LOW);
    noNewTone(buzzerPin);

  }


    Serial.print(threshold);
    Serial.print(" ");
    Serial.print(celsius);
    Serial.print(" ");
    Serial.print(sensorThreshold + "\n");


    lastPrintTime = millis();


}
```