```
/* Knock Sensor

   This sketch reads a piezo element to detect a knocking sound.
   It reads an analog pin and compares the result to a set threshold.
   If the result is greater than the threshold, it writes
   "knock" to the serial port, and toggles the LED on pin 13.

   The circuit:
    * + connection of the piezo attached to analog in 0
    * - connection of the piezo attached to ground
    * 1-megohm resistor attached from analog in 0 to ground

   http://www.arduino.cc/en/Tutorial/Knock

   created 25 Mar 2007
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   modified 30 Aug 2011
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   This example code is in the public domain.

 */


// these constants won't change:
const int ledPin = 13;      // led connected to digital pin 13
const int knockSensor = A0; // the piezo is connected to analog pin 0
const int threshold = 100;  // threshold value to decide when the detected sound is
a knock or not


// these variables will change:
int sensorReading = 0;      // variable to store the value read from the sensor pin
int ledState = LOW;         // variable used to store the last LED status, to toggle
the light

void setup() {
 pinMode(ledPin, OUTPUT); // declare the ledPin as as OUTPUT
 Serial.begin(9600);       // use the serial port
}

void loop() {
  // read the sensor and store it in the variable sensorReading:
  sensorReading = analogRead(knockSensor);

  // if the sensor reading is greater than the threshold:
  if (sensorReading >= threshold) {
    // toggle the status of the ledPin:
    ledState = !ledState;
    // update the LED pin itself:
    digitalWrite(ledPin, ledState);
    // send the string "Knock!" back to the computer, followed by newline
    Serial.println("Knock!");
  }
  delay(100);  // delay to avoid overloading the serial port buffer
}
```