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#include <Adafruit_LiquidCrystal.h>

#include "Adafruit_LEDBackpack.h"

int number = 0;

int distance = 0;

int i = 0;

Adafruit_LiquidCrystal lcd_1(0);

long readUltrasonicDistance(int triggerPin, int echoPin)
{
  pinMode(triggerPin, OUTPUT); // Clear the trigger
  digitalWrite(triggerPin, LOW);
  delayMicroseconds(2);
  // Sets the trigger pin to HIGH state for 10 microseconds
  digitalWrite(triggerPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(triggerPin, LOW);
  pinMode(echoPin, INPUT);
  // Reads the echo pin, and returns the sound wave travel time in microseconds
  return pulseIn(echoPin, HIGH);
}

Adafruit_7segment led_display1 = Adafruit_7segment();

void setup()
{
  lcd_1.begin(16, 2);
  led_display1.begin(112);
  Serial.begin(9600);
  pinMode(10, OUTPUT);

  number = random(1, 12 + 1);
  distance = round(0.006783 * readUltrasonicDistance(8, 7) / 0.25) * 0.25;
  led_display1.clear();
  led_display1.writeDisplay();
  lcd_1.setCursor(0, 0);
  lcd_1.print(number);
}

```

```
void loop()
{
  Serial.println(0.006783 * readUltrasonicDistance(8, 7));
  if (distance == number) {
    digitalWrite(10, HIGH);
  } else {
    digitalWrite(10, LOW);
  }
  delay(10); // Delay a little bit to improve simulation performance
}
```