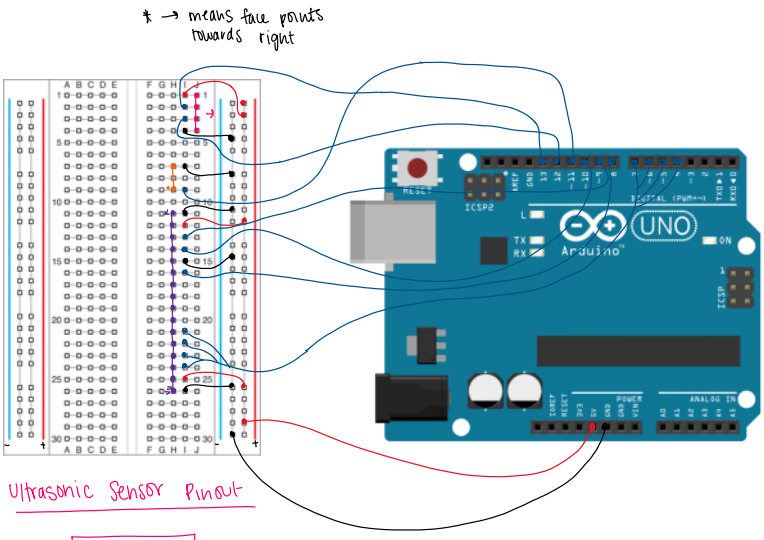
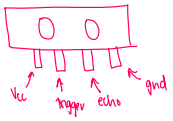
Closet Buzzer

*For sisters who like to steal clothes

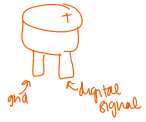
Saturday, February 12, 2022 9:48 PM



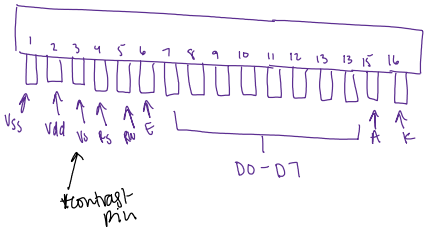
Ultrasonic Sensor Pinout



Active Buzzer Pinout



LCD Pinout




```
#include <LiquidCrystal.h>

/*GLOBAL VARIABLES*/

//Buzzer Pin Definitions
#define trigPin 9
#define echoPin 8
#define buzzer1 10
long duration; // variable for the duration of sound wave travel
int sensDistance; // variable for the distance measurement

//LCD Pin Definitons
int reg0 = 3;
int reg1 = 11;
int reg2 = 12;
int reg3 = 13;
int en = 7;
int rs = 6;
int contPin = 5;
int contVal = 80;

//Create LCD object
LiquidCrystal lcd(rs, en, reg0, reg1, reg2, reg3);

void setup() {
 // Buzzer Setup
 pinMode(trigPin, OUTPUT); // Sets the trigPin as an OUTPUT
 pinMode(echoPin, INPUT); // Sets the echoPin as an INPUT
 pinMode(buzzer1, OUTPUT); //Sets buzzer1 as an OUTPUT
 Serial.begin(9600); // Serial Communication is starting with 9600 of baudrate speed

 // LCD Setup
 analogWrite(contPin, contVal);
 lcd.begin(16,2);
}
void loop() {
 sensDistance = sensorDistance();

 //clear lcd
 lcd.clear();

 if(sensDistance < 25)
 {
  tone(buzzer1, 1800);
  delay(100);
  lcd.print("ENOUGH!");
  noTone(buzzer1);
  delay(100);
 }
 else if(sensDistance < 50)
 {
  tone(buzzer1, 1800);
  delay(250);
  lcd.print("STOP!");
  noTone(buzzer1);
  delay(250);
 }
 else if(sensDistance < 100)
 {
  tone(buzzer1, 1800);
  delay(500);
  lcd.print("GO AWAY PLEASE!");
  noTone(buzzer1);
  delay(500);
 }
}

int sensorDistance()
{
 int distance = -1;

 digitalWrite(trigPin, LOW);
 delayMicroseconds(2);

 // Sets the trigPin HIGH (ACTIVE) for 10 microseconds to tell the echo pin to gather data
 digitalWrite(trigPin, HIGH);
 delayMicroseconds(10);
 digitalWrite(trigPin, LOW);

 // Reads the echoPin, returns the sound wave travel time in microseconds
 duration = pulseIn(echoPin, HIGH);
```

```
  long actualTime = duration/2;

  // Calculating the distance
  float speedSound = 0.034; //cm/us
  distance = actualTime * speedSound; // Speed of sound wave divided by 2 (go and back)

  return distance;
}
```