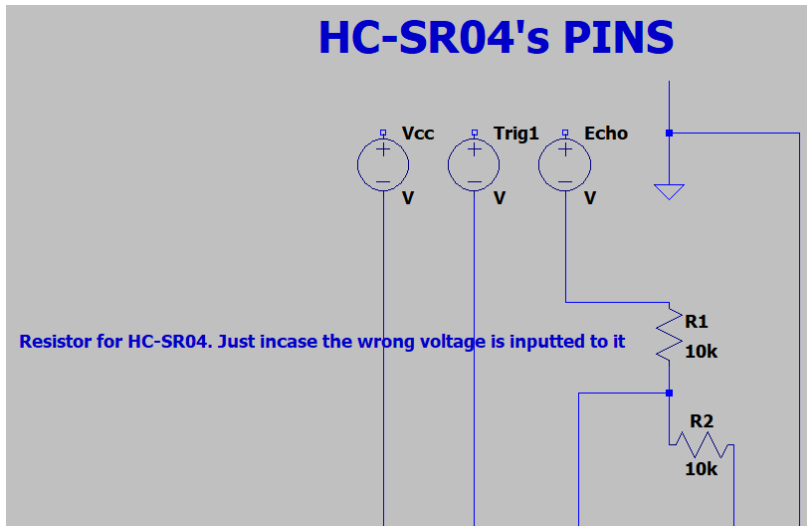Introduction:

This is a draft schematic of the project.
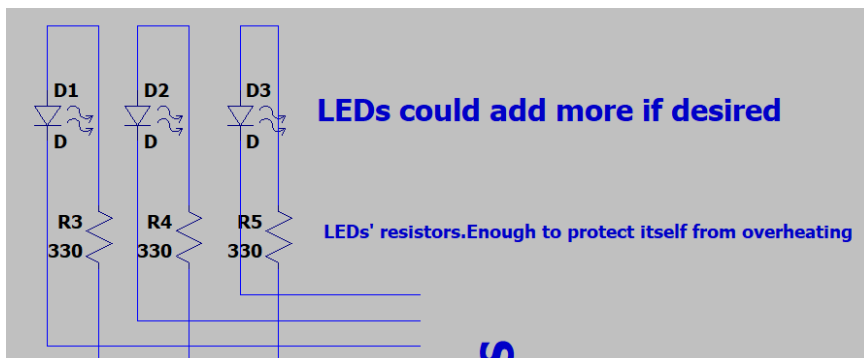
LTSpice of the proximity sensor:

HC-SR04's PINS

Vcc   Trig1   Echo

V   V   V

R1
10k

Resistor for HC-SR04. Just incase the wrong voltage is inputted to it
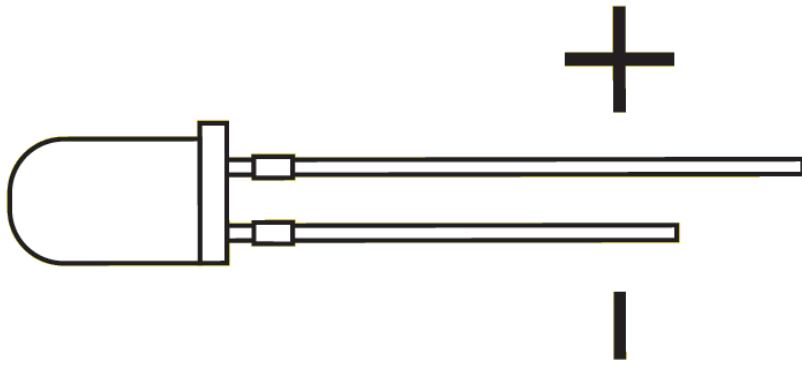
R2

10k

The pins of the HC-SR04's pins. Echo pin is an Output pin. This pin goes high for a period of time which will be equal to the time taken for the US wave to return back to the sensor.

HC-SR04

1. Vcc   4. Ground

2. Trigger   3. Eho

The LEDs in LTSpice:

D1   D2   D3   **LEDs could add more if desired**

D   D   D

R3   R4   R5   **LEDs' resistors.Enough to protect itself from overheating**

330   330   330
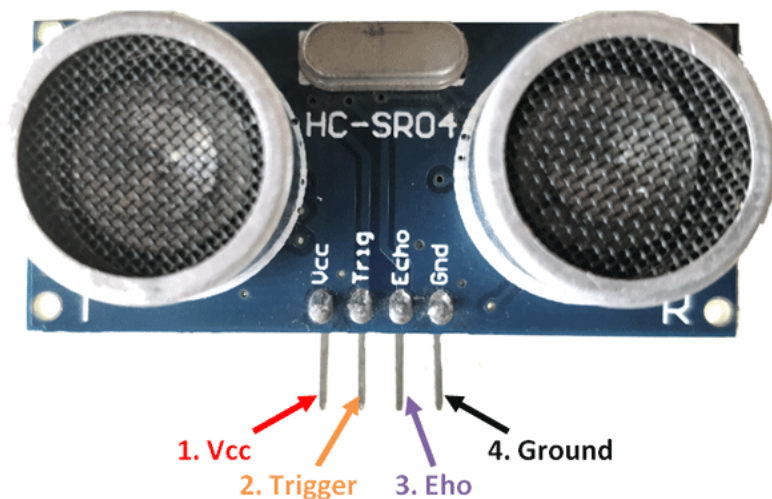
We'll be using a two pin LED for our project

LTSpice, zoomed out view:

HC-SR04's PINS

Vcc   Trig1   Echo

D1   D2   D3

LEDs could add mo

R04. Just incase the wrong voltage is inputted to it

R1
10k

R3
330

R4
330

R5
330

LEDs' resistors.Enough to pro

R2
10k

Raspberry Pi's PINS
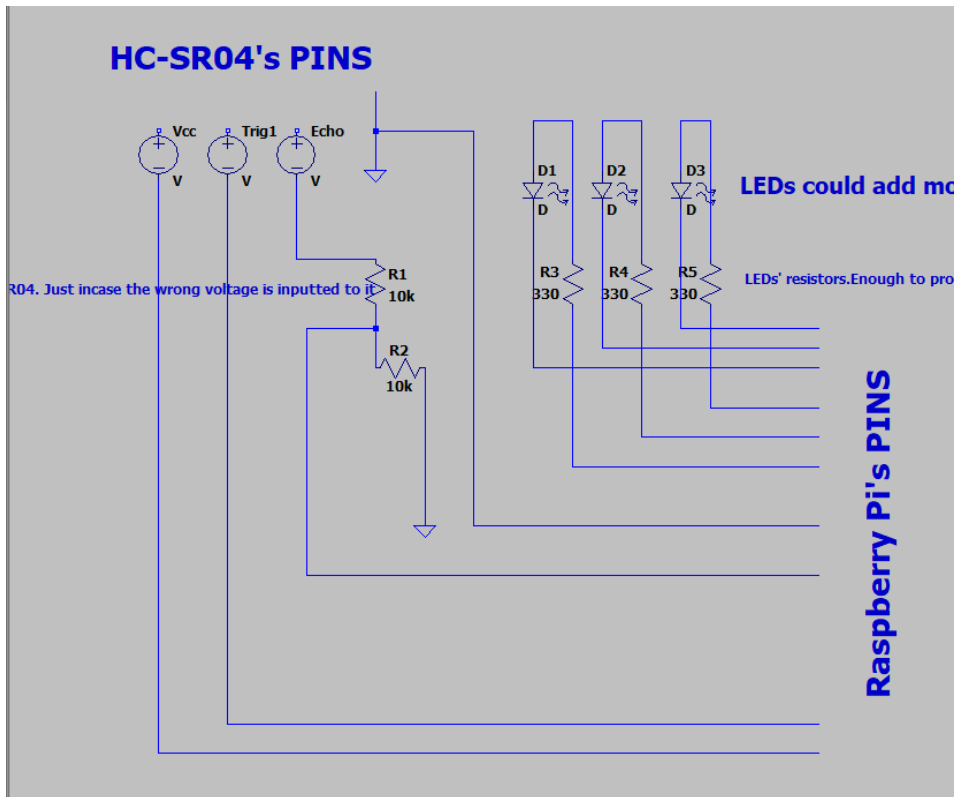
The pins of the microcontroller. Depending on how everything is coded, we will assign the wires in their respective places.
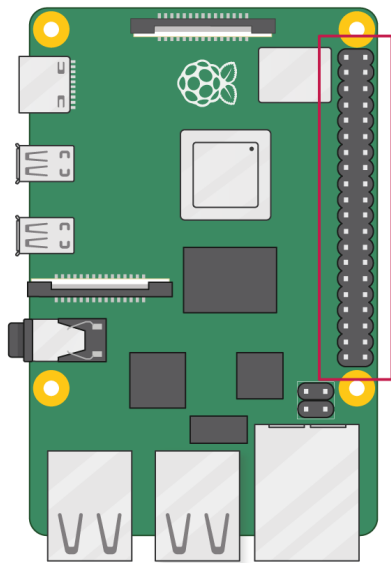
3V3 power	1 2	5V power
GPIO 2 (SDA)	3 4	5V power
GPIO 3 (SCL)	5 6	Ground
GPIO 4 (GPCLK0)	7 8	GPIO 14 (TXD)
Ground	9 10	GPIO 15 (RXD)
GPIO 17	11 12	GPIO 18 (PCM_CLK)
GPIO 27	13 14	Ground
GPIO 22	15 16	GPIO 23
3V3 power	17 18	GPIO 24
GPIO 10 (MOSI)	19 20	Ground
GPIO 9 (MISO)	21 22	GPIO 25
GPIO 11 (SCLK)	23 24	GPIO 8 (CE0)
Ground	25 26	GPIO 7 (CE1)
GPIO 0 (ID_SD)	27 28	GPIO 1 (ID_SC)
GPIO 5	29 30	Ground
GPIO 6	31 32	GPIO 12 (PWM0)
GPIO 13 (PWM1)	33 34	Ground
GPIO 19 (PCM_FS)	35 36	GPIO 16
GPIO 26	37 38	GPIO 20 (PCM_DIN)
Ground	39 40	GPIO 21 (PCM_DOUT)