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I started learning Arduino with LED light circuits, and the first thing that came to my mind was to create a “hello world” using Morse Code. Morse code is a method of transmitting text information as a series of on-off tones, lights, or clicks that can be directly understood by a skilled listener or observer without special equipment. Morse code can be used visually, audibly, or physically. Visual Morse Code communication is through light, audible is through “dits” and “dahs,” and physical is through pressure.

In Morse code, a “dah” (-) or dash is 3 times the “dit” or dot (.) irrespective of the unit, ie. It doesn’t matter if it’s visual, audible or physical form of communication. I will set my dot time as 100 milliseconds, and dash time as 300 milliseconds. In Morse Code, words are separated by seven dots, and letters inside the same word are separated by 3 dots or a dash. The following table will show the appropriate representation of each character in “hello world.”

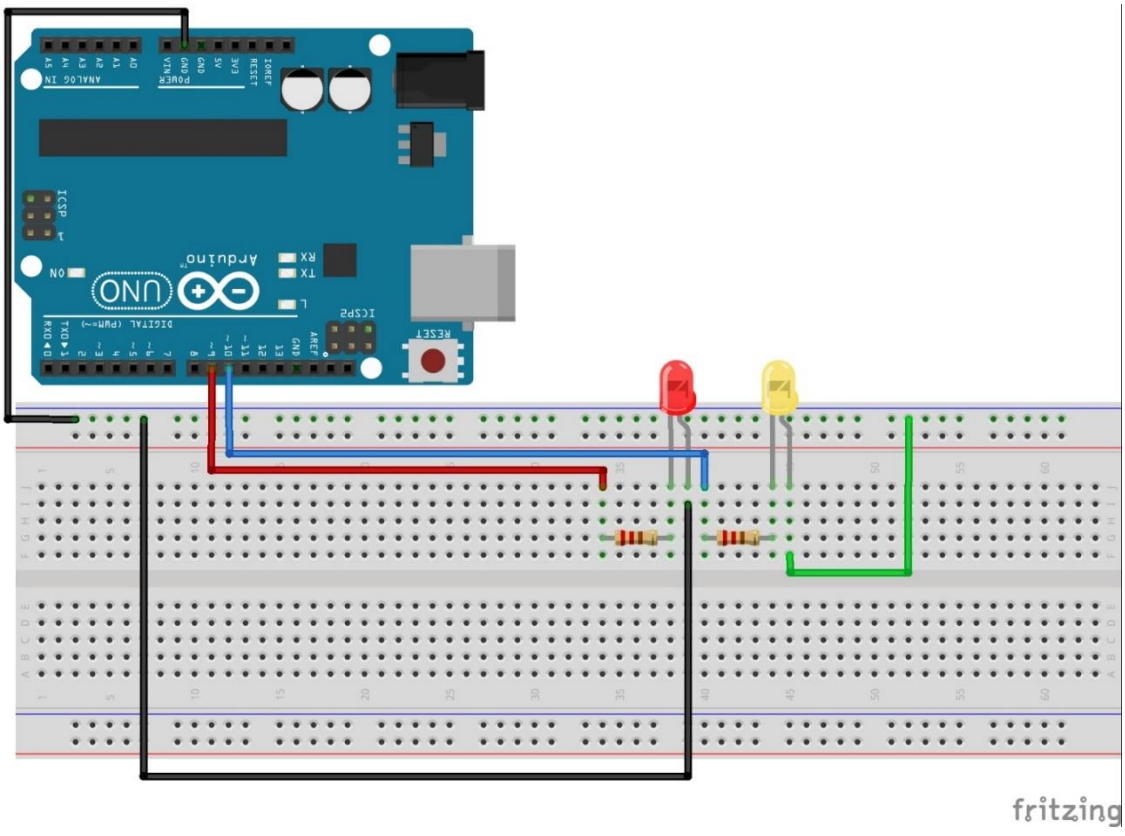
Character	**Representation in dots or dashes (Dot = 100 milliseconds, Dash = 300 milliseconds)**
H	....
E	.
L	.-..
L	.-..
O	---
W	.--
O	---

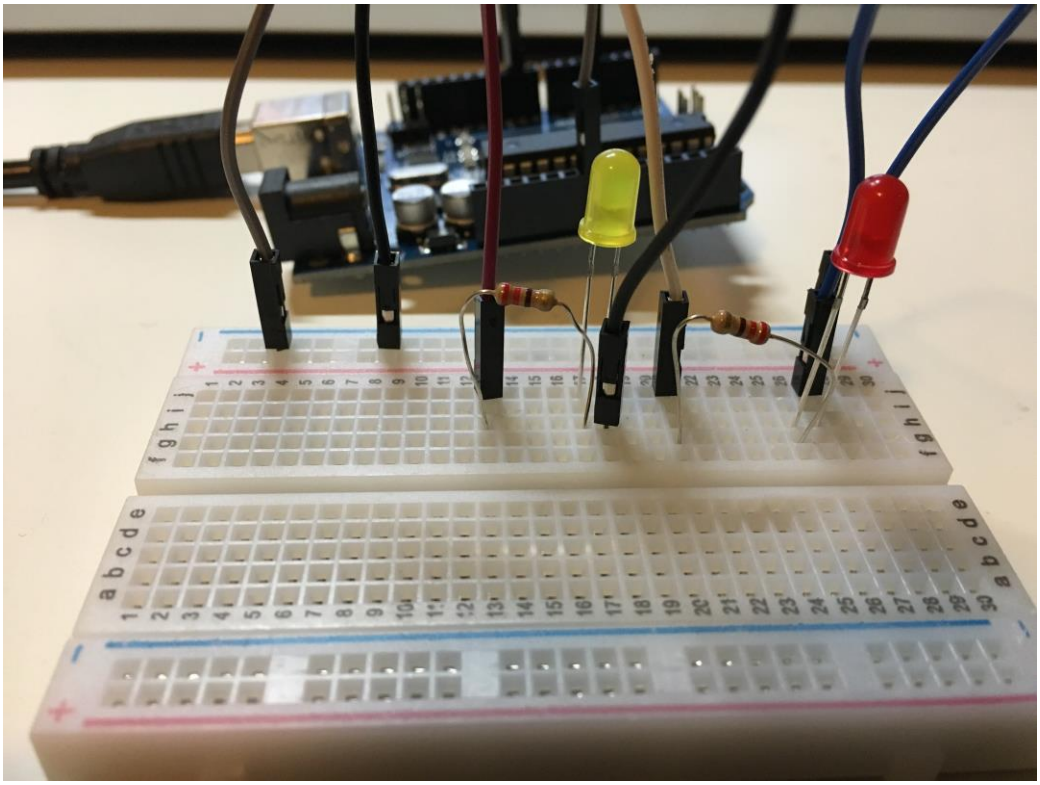
R	.-.
L	.-..
D	-..

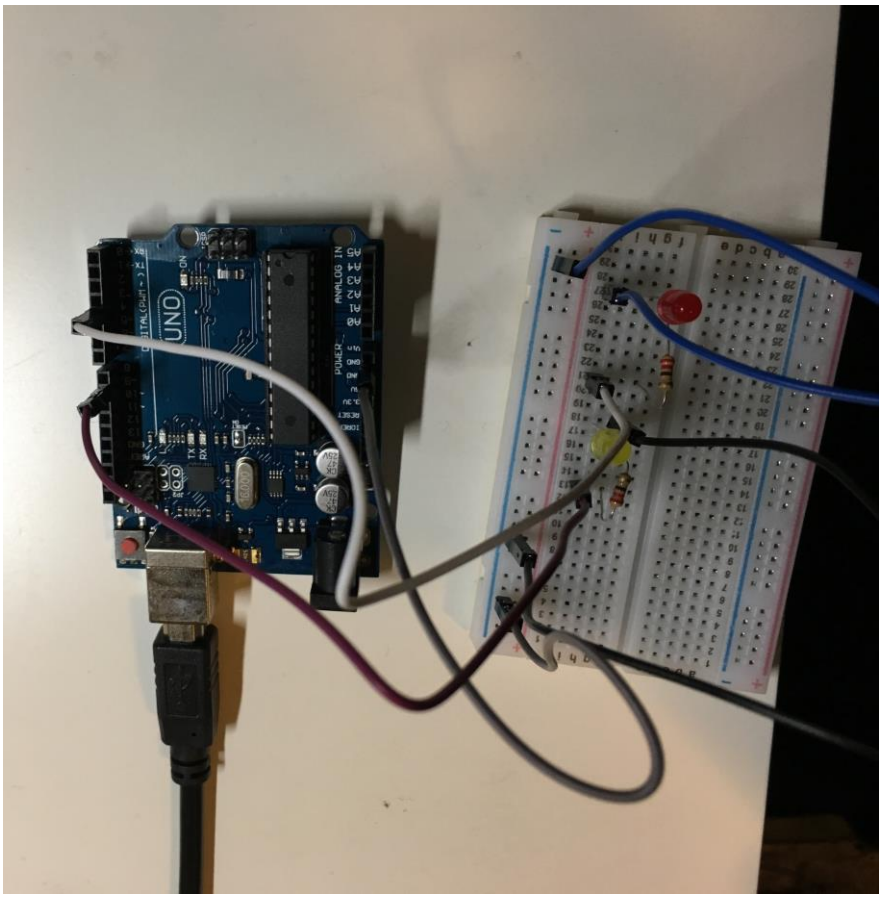
What's Happening?

I will use the light only to show letters. Letters in the same word are separated by a dash or 3 dots, while words are separated by 7 dots. The pauses between 2 letters are represented by the red light. Morse code uses only light, so this method is a bit different than the regular one. For example, the separation between 'H' & 'O' is represented by a red light, however, the separation between a 'dot' and a 'dash'

Circuit Diagram







Works Cited

"Morse Code." *Wikipedia,* https://en.wikipedia.org/wiki/Morse_code.

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