Morse Code Translator with Arduino

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Project Overview

This Arduino project reads a string from the Serial Monitor and translates it into Morse code. An LED and a buzzer are used to visually and audibly represent the Morse signals. Each letter and number (A–Z, 0–9) is mapped to its Morse equivalent using a combination of dots and dashes.

Hardware Setup

- **LED**: Connected to digital pin 11 with a current-limiting resistor to GND.
- **Buzzer**: Connected to analog pin A1 and GND.
- **PC Serial Input**: Used to send text to Arduino via the Serial Monitor.

Functionality Summary

- The program starts by initializing the LED and buzzer pins as outputs and begins serial communication.
- When a string is received through the serial monitor, it is parsed character by character.
- For each valid character, a function outputs its Morse code using:
  - **Dot**: LED and buzzer ON for 300ms
  - **Dash**: LED and buzzer ON for 900ms
  - Gaps between elements and letters are added using ‘delay()‘
- Space between words triggers a longer delay.