Alexandria University
Faculty of Engineering
Computer and Systems Engineering Dept.
CSE233: Computer Organization

Lab #1 Report

Morse Code

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1. Problem Statement

Implementation of Morse code using Arduino.

2. Code "GitHub Rebo"

GitHub:
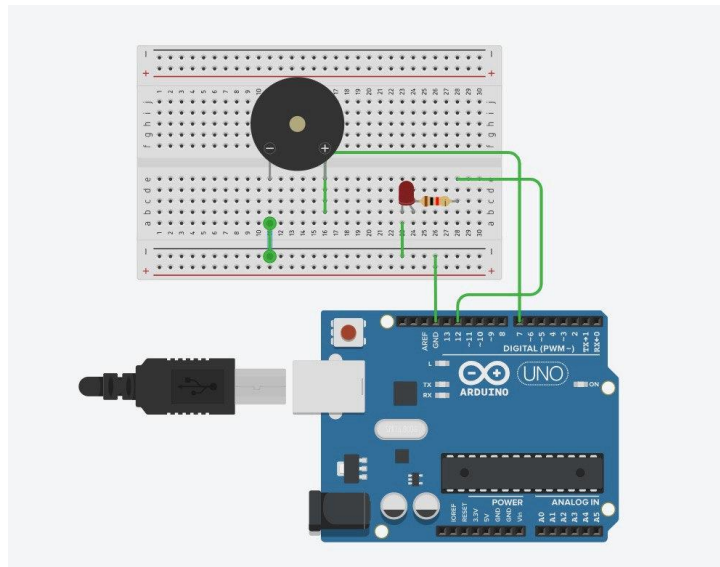https://github.com/Mohamed-Abdalla-Yassen/Computer-Organization-Projects.git
Arduino web editor:
https://app.arduino.cc/sketches/a0a8bb3b-80dc-4f75-ac6c-663d399321ac?nav=Files&view-mode=preview

3. Video "YouTube"

https://youtu.be/AVUbwkqFI5g?si=OuOpKl8hnBGMw8rF

4. Schematic diagram

5. Description & Challenges

We have learned about **serial communication**, which allows the Arduino to accept input instead of relying on hard-coded values. This gives the program the flexibility to encode any message into **Morse code** and display it using a small external LED.

To make the code more organized and avoid repetition, we defined a **struct** that represents each character along with its corresponding Morse code. We then created functions to handle LED timing, including switching it on and applying the appropriate delays.

By implementing this code, we gain the ability to display any text or message sent to the Arduino.