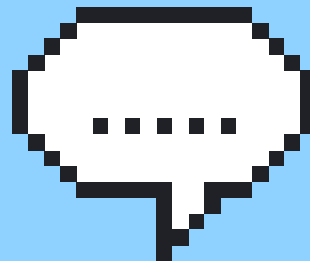# FlashBack

FlashBack is a **memory game** where players must mimic sequences of LED lights using buttons to progress through rounds.

The game features adjustable **difficulty levels**, **high score** tracking, and a **visual score display** via an LCD. This project integrates **LEDs**, **buttons**, a **potentiometer** and an **LCD**, to create a challenging and customizable memory game experience.

Product Design...

Arduino 1

Input:
- Potentiometer

Output:
- LCD display

Arduino 2

Input:
- Buttons

Output:
- LEDs

Communication: Serial Communication

Original Work:

A simple Arduino memory game is what we are adding onto. One idea we will add is the custom game difficulty. Users will be able to select the game difficulty, which makes the LED sequences longer or shorter. Another idea is to track the user's high score. A point system will be present to keep track of the points the user is accumulating. When the user loses, if a high score is achieved, the score will be displayed on the LCD display.

current (updated) hardware diagram

Arduino 1:
- Potentiometer for difficulty & start button
- lcd for displaying score & high score

Arduino 2:
- leds & buttons for gameplay

Serial Communication:
- TX ↔ RX
- GND ↔ GND