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# “Simon Says” game

(preferably an advanced project if the optional requirements are met)

## OBJECTIVE.

The purpose of this project is to create a game, which is similar to the game “Simon says”, whose objective is to make the player mirror a (sequence of simulated button presses shown on the display)button pressing sequence. When the correct sequence is pressed by the player, the next sequence will add another button press. The goal is to get as many sequences right as possible.
The *must*-requirements for the game are:

- The display will show a representation of the position of the buttons and indicate a sequence of them
- The sequence will be randomised
- The game will be controlled by the user using the buttons on the ChipKIT board.
- If the player presses a wrong button the game stops
- The game will keep track of the high-scores and show the table of scores if asked
- The game will connect to an external speaker and generate sounds for the game
- The game will have two game-modes: regular (same speed) and master (where each pause between each next sequence of the signalled buttons will get shorter, therefore giving the player less time to memorise the sequence)’
- The player has 3 lives at the beginning, and a wrongly pressed button results in a loss of one life. The game loop quits after all three are lost.

Optional (advanced):

- Connect to a speaker via eg. I2C or SPI

## SOLUTION.

To create this project we will use the ChipKIT Uno32, and the Basic I/O Shield, which gives us multiple input and output options. The game requires us to at least use the 4 buttons, and the oled-display on the I/O-Shield for user input and game output. Development of the game is going to be made with MCB32tools.

## VERIFICATION.

Test for verifications is for example to find the fastest sequence possible for the game to be playable. Also how long the sequence can be.

## CONTRIBUTIONS.

At this early stage of the project we are not yet sure how the work is going to be divided but if possible we would prefer to do everything regarding the project together (physically or digitally).

The ChipKIT is originally at David’s but we might switch that later if needed.

REFLECTIONS.
In the final abstract, we will discuss and reflect on what happened in the project.