

Simon (RIPES Version) - User Guide

Simple yet challenging memory game based on Simon!

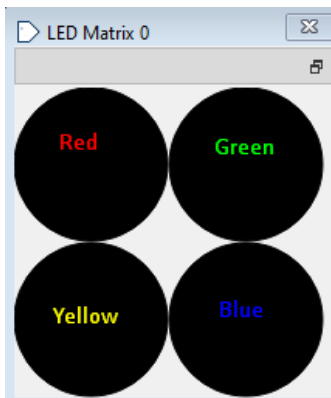
- Simon (Ripes Version) requires the Ripes software.
- For use by one player

Objective

The goal of the game is to correctly replicate the pattern of random colours shown on the board.

Components

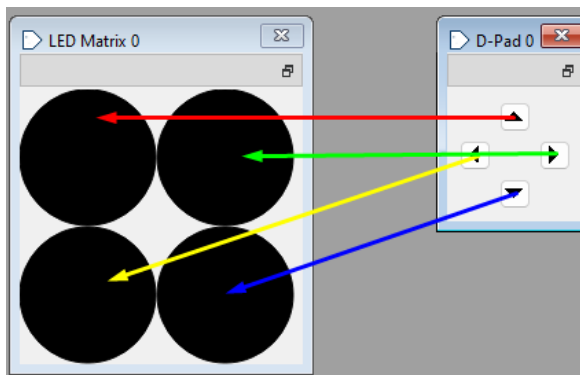
- LED Matrix: This is where the sequence of colours will appear for you to follow.



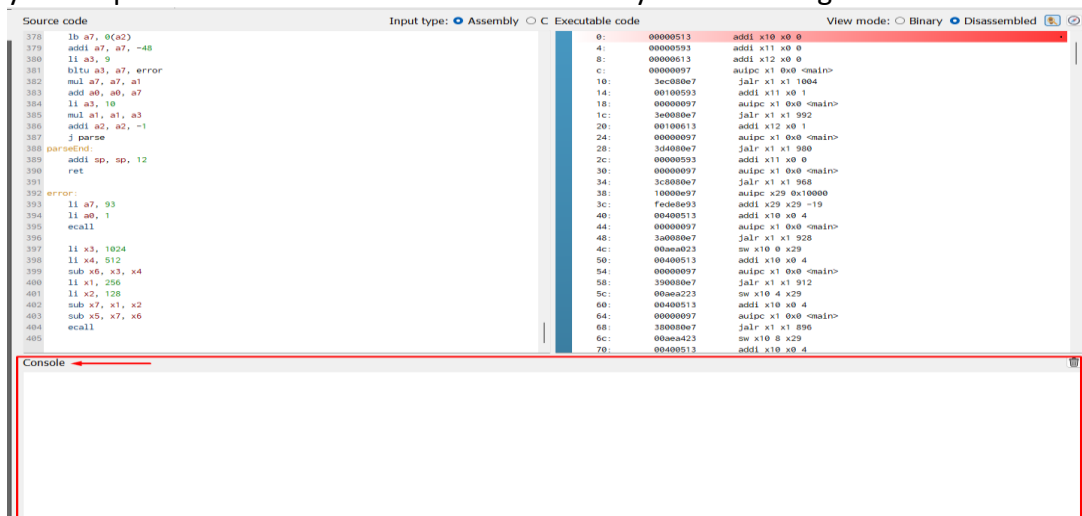
- D-Pad: A small window with 4 buttons: up, down, left, and right.



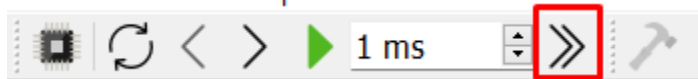
Each button maps to one circle, as shown in the following image:



- **Console:** This is where the game will communicate with you. To reply, simply type in your response in the Console. The Console is only visible through the 'Editor'.



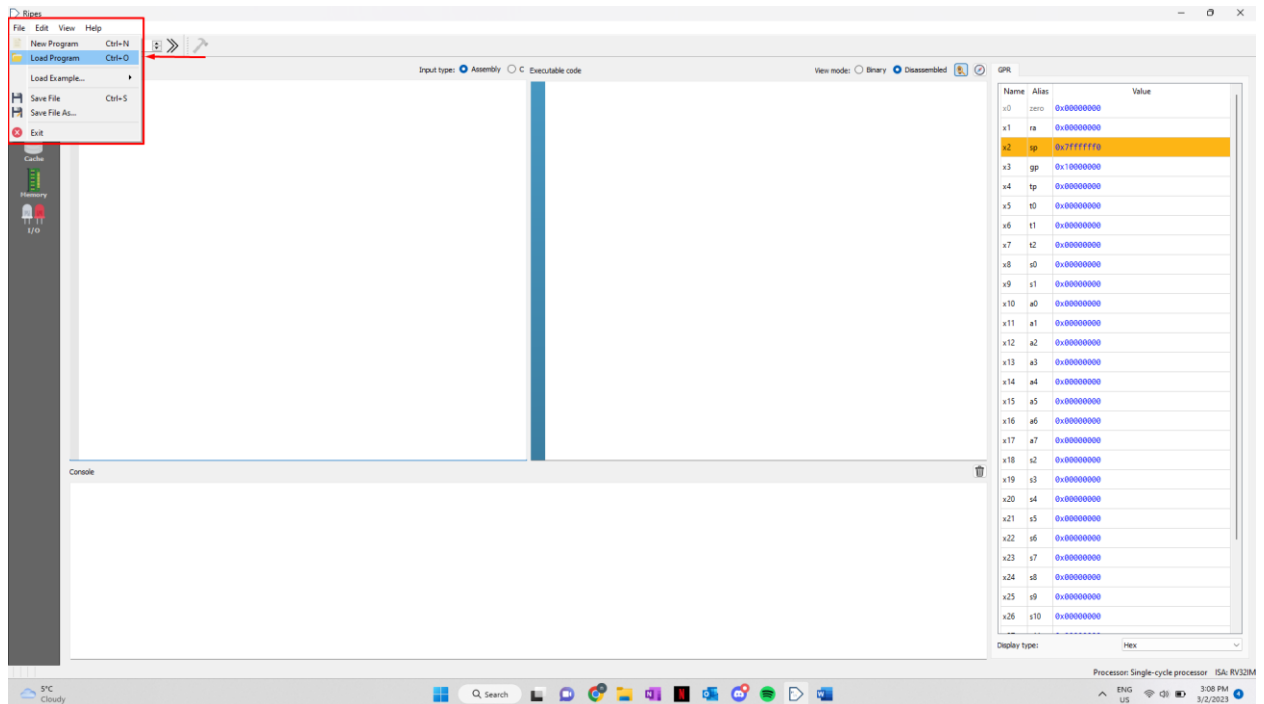
- **Start button:** grey double arrows, located at the top left of the screen.



Setup

To setup a game:

1. Download the program file “simon_game_final.s”.
2. Open Ripes and load the program file into Ripes through the toolbar located at the very top of the screen.

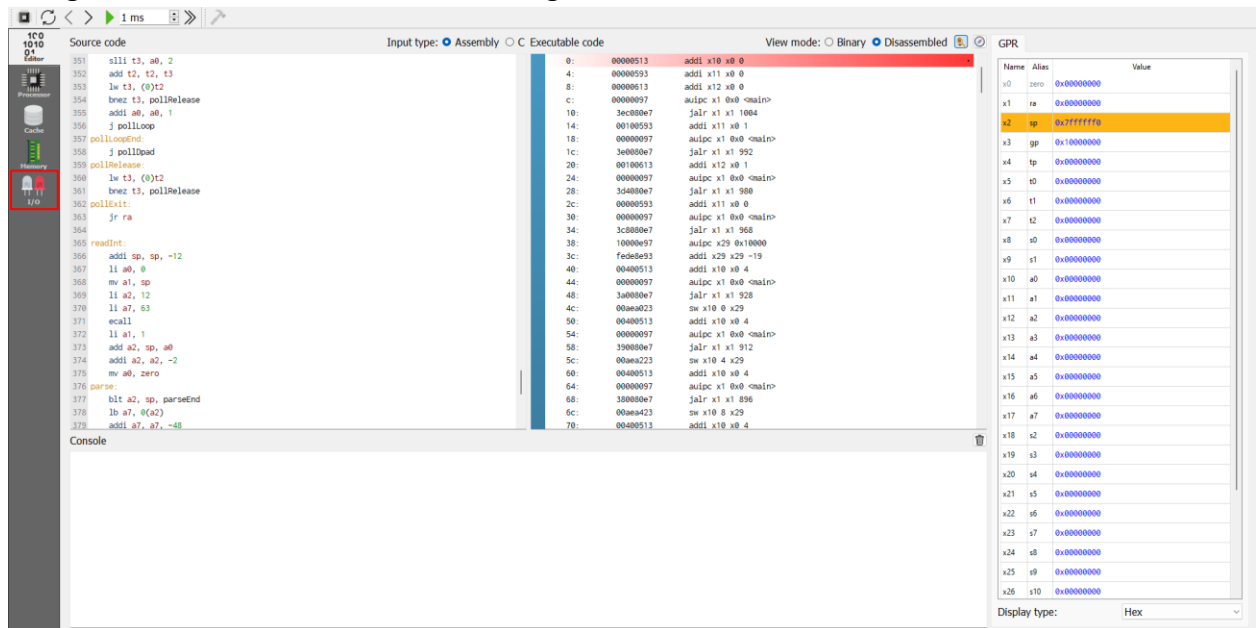


3. Click 'Select processor', from the toolbar located at the top.

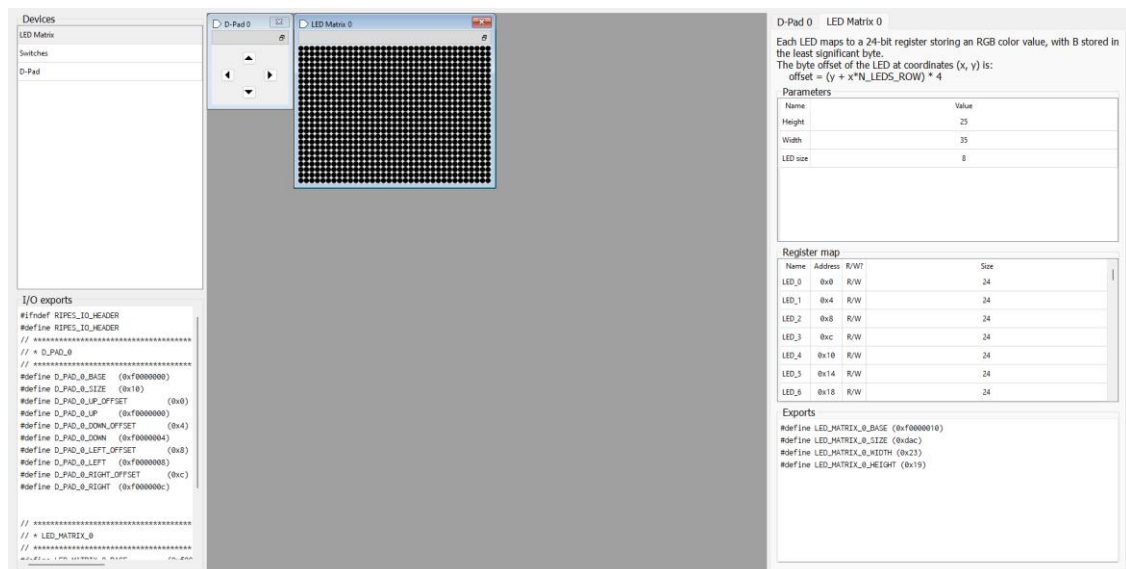


4. Select 'Single-cycle processor' and press 'OK'.

5. Navigate to the I/O section in RIPS through the menu on the left.

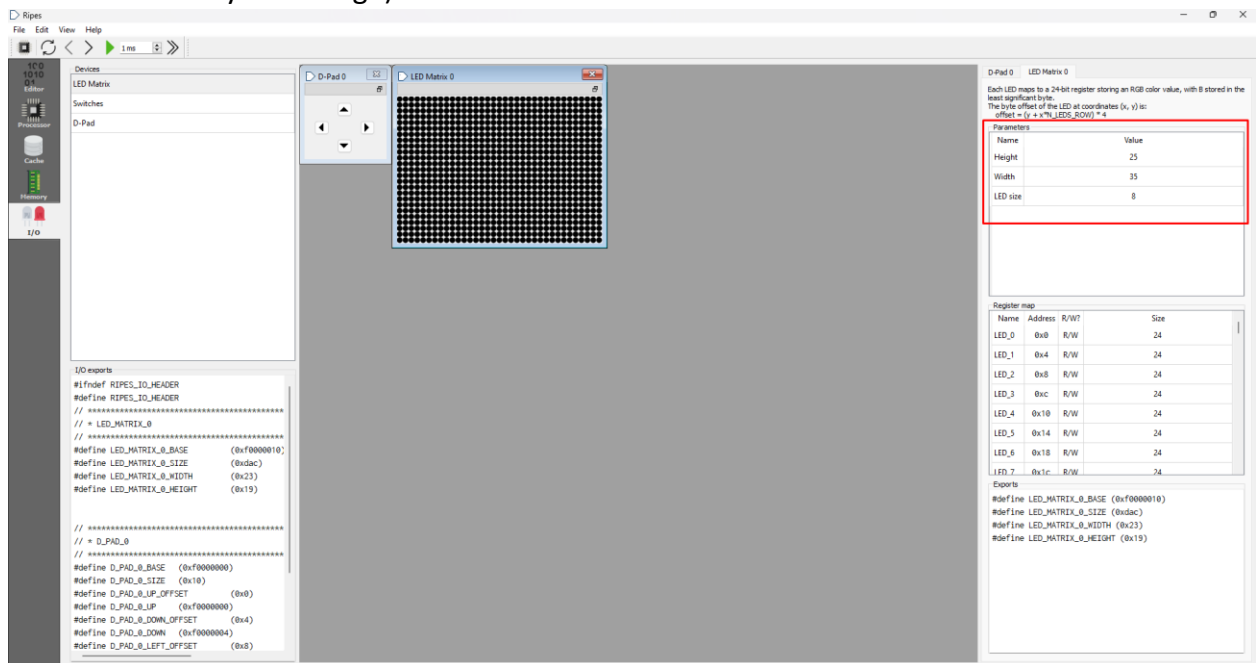


6. Under 'Devices', double click 'LED Matrix' and 'D-Pad'. This will open up the respective windows for the LED Matrix and the D-Pad. It should look like this:

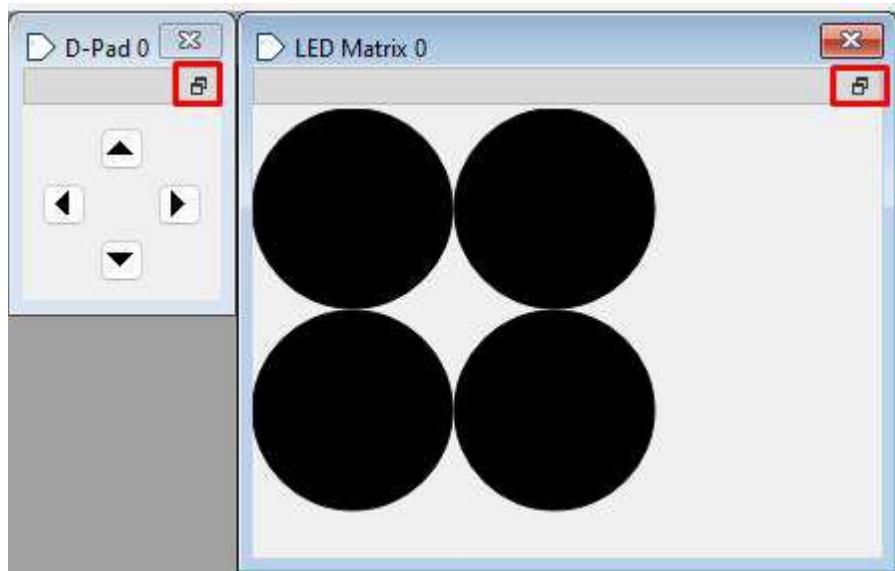


7. Click the 'LED Matrix 0' tab, located at the right side of the screen.

8. Under 'Parameters' (see image below), set the height and width values to 2, and the LED size to 100 (or any size that is comfortable to you). You should see 4 black circles, (as shown in the very first image).



9. Click the buttons as shown in the image below. This will allow you to drag the LED Matrix and the D-Pad windows freely.



10. Navigate out of the I/O section, and back to the 'Editor' from the menu on the left. You should still be able to see the LED Matrix and the D-Pad.

11. Click the 'Start' button to play!

How to Play?

To start the game, simply press the "Start" button on the main menu. Once the game begins, the LED-Matrix will display a sequence of colours. Your task is to replicate this sequence.

Each round of the game consists of a sequence of lights displayed on the board, followed by a black board. During this period, you will have to replicate the sequence of colours. You do this by pressing the corresponding buttons on the D-Pad. Once you click a button on the D-Pad, the corresponding LED will briefly turn white.

As you advance in rounds, the game will increase in difficulty. With each round, the number of colours displayed will increase by one. The first round will consist of 4 colours to replicate, the next of 5 colours, and so on.

What Happens at the End of a Round?

If you successfully finished the round, all 4 circles will turn white. But, once you click a button that does not correspond to the correct colour, all 4 circles will turn purple. In either case, you will be asked through the Console to enter 0 (to exit) or 1 (to play again). You respond by entering your answer into the Console. Playing again means you start back at level 4.

Is The Game Misbehaving?

The game might misbehave due to unintended usage by the player. For example, entering a number other than 0 or 1 into the Console at the end of the round, or accidentally changing the code in the 'Editor'. If this happens, simply reload the program file into Ripes.