

Documentation for SIMONSAYS in **Ripes**

2.2.5

Made By: Muhammad Faraz Tariq

Welcome to Simon Says:

Welcome to the Simon Says game! This is a memory game that requires you to memorize and repeat a sequence of flashing lights and/or sounds. The game starts with a sequence of one random flashing LED. Your goal is to repeat the sequence by pressing the corresponding d-pad keys in the correct order. As you successfully repeat each sequence, the game will increase in difficulty by adding an additional random LED to the sequence. The game will end when you fail to repeat the sequence correctly.

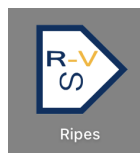
Background:

The original Simon was a standalone device, and the sounds it plays as you touch the pads are part of the experience. This game will mimic the core game-play: the game will light up a set of four LEDs. The player will use a D-pad input to match the sequence produced by the LEDs. As long as the player gets the sequence correct, the game continues. Once they miss a sequence, the game ends. (CSC258 Assembly Project Assignment Sheet)

Getting Started:

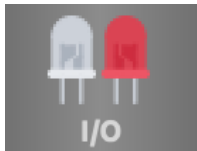
In order to start the game on Ripes, the player needs to set up a few things in order to play.

- 1) Open Ripes. The icon should look like the following:

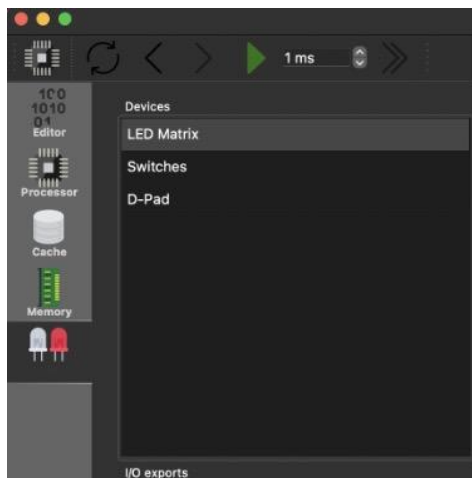


2) Select File -> Load Program -> Select Source file -> Open -> Select the "SimonSays.s" -> OK. The SimonSays.s file can be found wherever the player has saved it on their machine.

3) Select the I/O tab on the left. The icon should look like the following:



4) Double-click on the "LED Matrix" device to get an LED matrix if there is not already one.

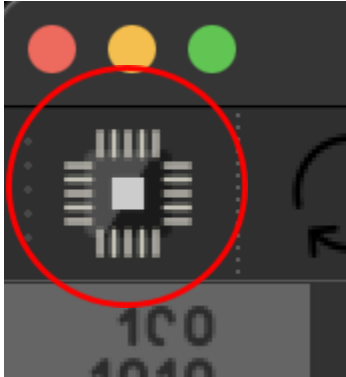


5) To the right, you should see a panel "LED Matrix 0" with parameters "Height", "Width", and "Size". Set the height and width to 2 and 2, respectively. Set the size to a value that makes it easy for you to distinguish the LEDs. Recommended size is 100.

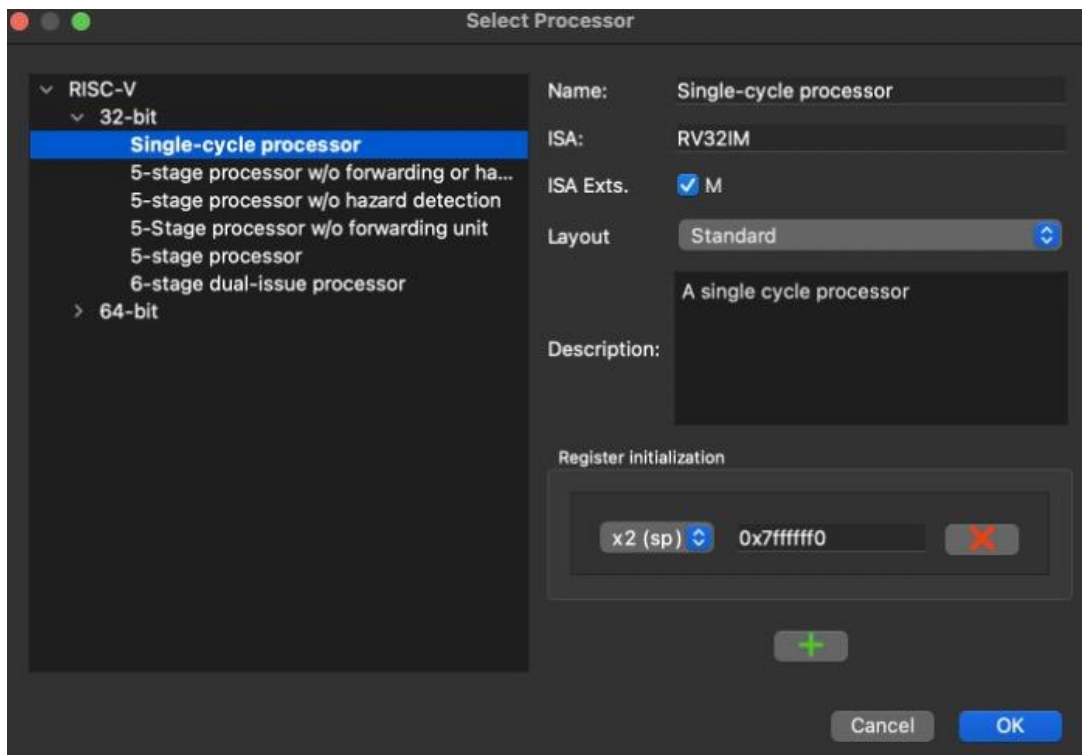
Parameters	
Name	Value
Height	2
Width	2
LED size	100

6) Next, double-click on the "D-Pad" device to get a D-pad if there is not already one.

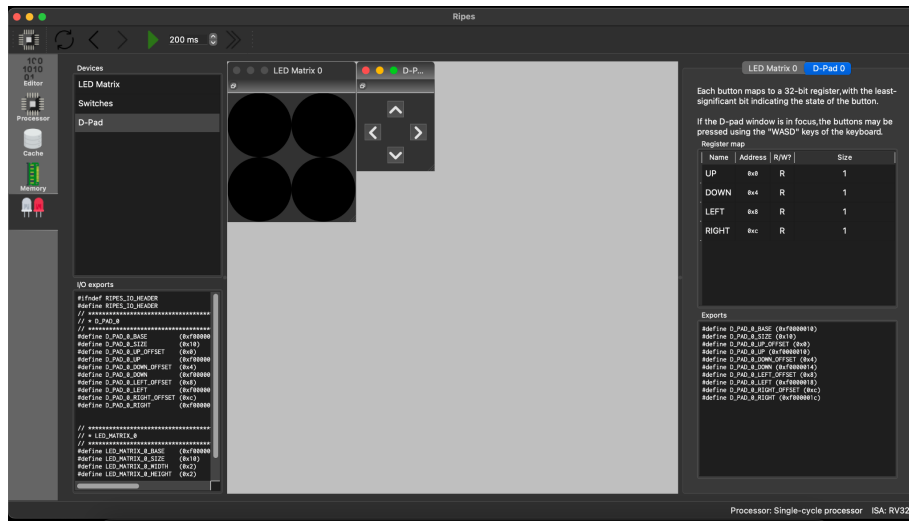
7) To make sure the game runs efficiently and as intended, the player should navigate to the "Processor" tab by pressing the following icon on the left side.



8) Press the "Select Processor Tab" on the top left and select "Single-cycle processor". Then press "OK".



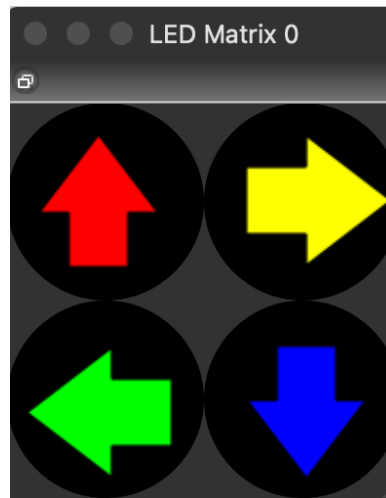
9) Finally, your screen should look similar to this:



GamePlay:

Now that you have set up the game, it's time to finally understand how the game works. The gameplay for this Simon Says game is simple. The LEDs will start to illuminate in the "LED Matrix" window you just made during setup. The player must press the arrows on the D-pad in the same order, depending on the order that the LED lights up. The pattern lengthens and the rate at which it is revealed speeds up as the round goes on making it difficult each round. Considering that the sequence will only be displayed once per round, the player must quickly memorize it. There is no time limit to input the sequence.

- **Keypad Commands and LED colours:**



- Top Left LED = UP D-Pad (RED)
- Top Right LED = RIGHT D-Pad (YELLOW)
- Bottom Left LED = LEFT D-Pad (GREEN)
- Bottom Right LED = DOWN D-Pad (BLUE)

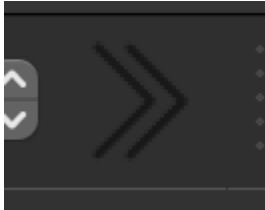
- **Scoring:**

Depending on how many rounds a player has successfully completed, the scoring in this game is determined. Each round carries one point. The player earns 1 point if they succeed in a round. The game ends when the player enters the incorrect sequence, and the final score is shown on the console of ripes. The round number will be displayed in the console after every successful round.

How to play:

To start playing the game:

- 1) Press the ">>" on the top of Ripes.



- 2) The game will begin and the first sequence will light up.
- 3) The player can press the sequence on the D-pad after a little interval after the sequence lights up.
 - a) The player will know the D-pad has been pressed if the colour of the LED also lights up.
 - b) The light the d-pad corresponds to, is explained under the gameplay section.
- 4) If the player has entered the correct sequence the next sequence will light up and the player can continue playing.
- 5) If the player inputs the incorrect sequence the LED lights stay black and the game ends. The console will show the players' highest round indicating that the game has ended.
- 6) If the bottom left of the window says "Waiting for user input" means the game has ended.
- 7) Finally, the player should navigate to the console under the "Editor" tab on the left. It will ask the player if you want to continue playing. If so, enter after pressing "1". The match will start over.

ENJOY