Instruction Manual for SIMON:

Made Using Assembly (CSC258)

SIMON. FLASH. MEMORY.

Welcome to Simon A memory based, game where the player is asked to repeat a sequence of LED's. A memorable person will be unstoppable! Do you remember? Well then, test your knowledge with Simon! Playable for 1 or 2 Players. There is a Single-Player mode with a challenging level up along with a Multi-Player 1v1 challenge. Can you beat your friend? We will see!

Installation Instructions and Getting Started

Download the starter file. Open Ripes Assembly, load the file and in I/O tab enable LED Matrix and D-Pad and have them visibly open. The game uses a 4x4 LED Matrix so set the size to 4 width/height. Change the LED size to 100 for a friendly experience. Make sure to use fast execution when running the program. You are ready to play Simon! The game asks if you want to play single or multiplayer at the start. Press up on D-Pad for Single, down for 1v1. Use the processor tab for more info.

Model Singleplayer (Press Up on D-Pad)

The LED Matrix remains black in a 4x4 until the game is ran. Once ran the model will display LED's flashing to the user and then finish the displaying. Then the user is expected to match the LED's. Here is a model of how the flashes will appear and how to respond on the D-Pad:

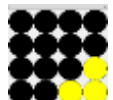*Represents 0 or Up on the D-Pad*
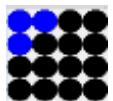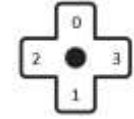

Represents 1 or Down on the D-Pad

Represents 2 or Left on the D-Pad

Represents 3 or Right on the D-Pad

The D-Pad uses 4 controls which represent numbers from 0 to 3. 0 represents up, 1 represents down, 2 represents left, and 3 represents right:

When blue flashes it represents 0, red is 1, green is 2, and yellow is 3. The user needs to remember how many flashed along with which colors have flashed.

When the flashing stops for a few seconds it is the users turn to match the flashed colors. The user will use the D-Pad and match each color accordingly. If the color is correct during that sequence, it will flash that color stating that it is correct. If the user gets all the colors correct in the sequence by clicking on the D-Pad, and knowing when to stop, a grey flash will be displayed on the entire board signaling a level up. If the user decides to play again press down on the D-Pad and up if the user decides to end the game. If the user got the pattern correct and plays again, a harder sequence with an additional pattern will be added to the game. The game starts at level 1 and each time the user gets a level correct there will be one additional sequence added making it more challenging.

If an incorrect color is chosen by the user after the sequence is over then a white flash will appear signaling an incorrect sequence. After this flash the game will ask if the user would like to play again or quit. Up is to quit, and down is to play again. If you play again the user starts back at level 1 with a pattern of 4 sequences. Each level up is +1 sequence making difficulty harder.

Gray flash representing matched pattern and level up

White flash representing incorrect pattern

In the processor tab information about levelling up can be viewed by the user. The program will say match the sequence letting user know when it is their turn to input the matching sequence. In the processor output an incorrect information will be displayed if the user is wrong in the sequence, and a correct information if the user matches the sequence.

Model Multiplayer (Press Down on D-Pad)

To play this challenge 1v1 multiplayer mode any user needs to push Down on the D-Pad to start a multiplayer challenger showdown. In this showdown player 1 goes first and player 2 is second. The players alternate each sequence. Player 1 starts with level 1 and if the sequence is matched correctly player 2 must match the next sequence on level 2. Each time a sequence is matched grey will light up otherwise white. A correct sequence for a player means they will get 1 point. The score board is displayed each time the turn switches regardless of if the player matches or gets the sequence wrong.

Initially, the scores start at 0 and increases by 1 if the player matches the sequence during their turn.

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Single or Multiplayer (1v1)?
For Single Press Up, For Multiplayer Press Down
Player 1 Score is 0
Player 2 Score is 0
```

turn. If a player successfully matches the sequence on their turn the opponent will have to face a harder level on their turn. This makes each round progressively harder. If a player gets the sequence wrong the scores remain the same but the level goes back to 1 and the opponent has an easy opportunity to earn points and raise the level up by 1 again. You must hit play again to continue turn by turn by hitting down on the D-Pad

```
GO! Match the Sequence!

Correct, Well Done! Play Again For Next Level! (Down for Yes, Up for No)
Level Up! You're on Level 2
Player 1 Score is 1
Player 2 Score is 0
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Player 2 wrong sequence. Player 2 awarded 0 & level reset
```
Oh No, That Seems to Be the Wrong Order! Back to Level 1! Play Again (Down for Yes, Up for No)

Player 1 Score is 1
Player 2 Score is 0
```

Players can choose to player however many rounds they want to play (end by pressing up on D-Pad), and once the game ends their final scores are displayed to show each player how many sequences they got right.

Players decided to end game. Scores shown.
```
Game Complete! Scores Below
Player 1 Score is 1
Player 2 Score is 0
```

More Information about Ripes & Simon

Below is some more information about how to download Ripes for Assembly using the starter file of the game Simon!

Click the download link below to download Ripes!

[Download Ripes](#)