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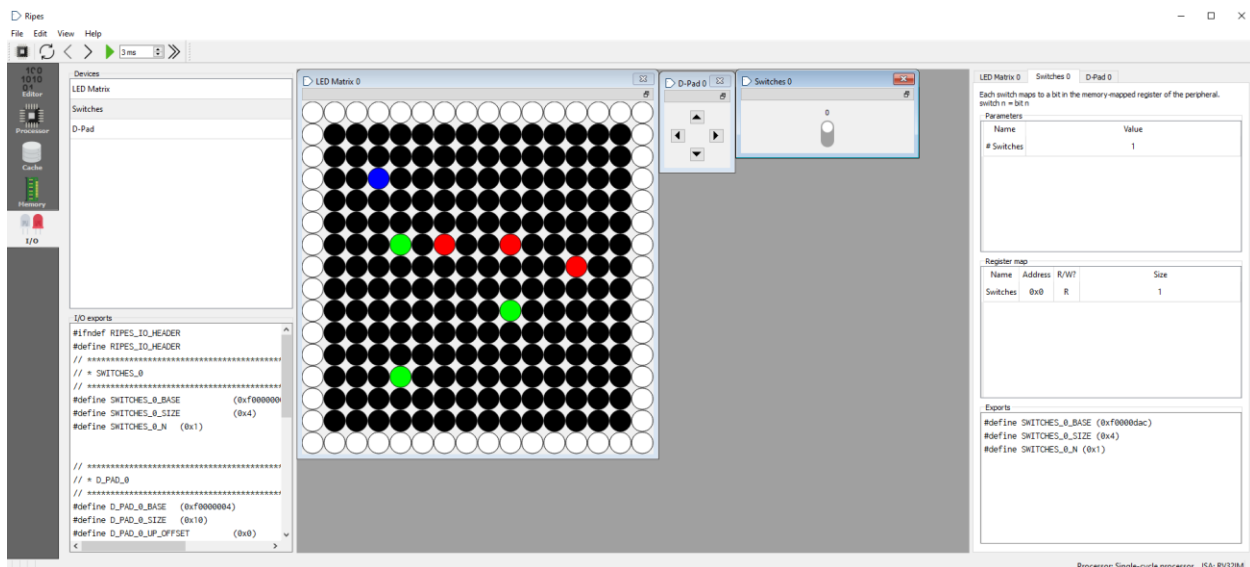
Program Setup

This program requires the user to modify RIPES settings to run properly. Before the code is run, RIPES I/O devices must first be configured.

Firstly, click on File → Load Program in the top bar. Then, click on “Source File” and then “Open File” and find “starter.s” on your computer and open it.

Double-click on the "LED Matrix" device to get an LED matrix if there is not already one. To the right, you should see a panel "LED Matrix 0" with parameters "Height", "Width", and "Size". Set the height and width to any number greater than 5. Set the size to a value that makes it easy for you to distinguish the LEDs.

Next, double-click on the "D-Pad" device to get a d-pad if there is not already one. To the right, you should see a panel "D-Pad 0". Select it and read the instructions. No values need to be set here; they should be okay as-is.



Finally, double-click on the “Switches” device to get a switch board. Set the number of switches to one. Your screen should resemble the following image:

To make sure the program runs quickly enough use the fast execution mode (the ">>" symbol or “F8”) when running the program.

Game Play

The blue LED is the player character. The red LEDs are boxes. The green LEDs are the targets. The white LEDs are walls.

Per standard Sokoban rules, the goal of the game is to move all boxes onto the targets. The player can interact with the boxes by pushing them around the screen. This can be done by positioning the player character next to a box, opposite the desired direction of movement and moving the character in that direction. The player cannot interact with targets.

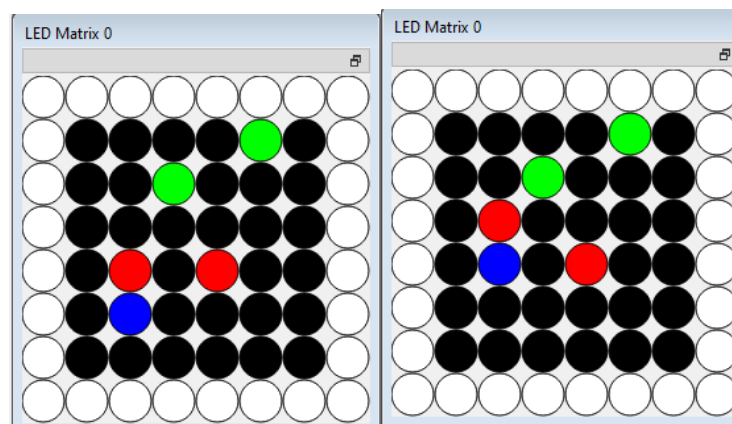
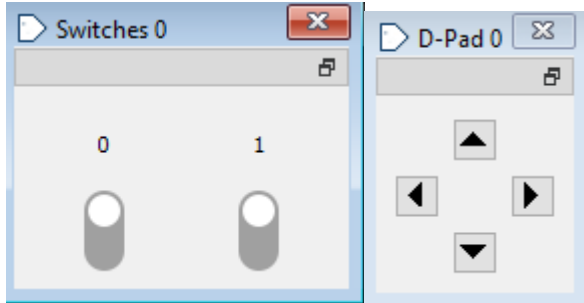


Fig: The player moved the box upwards by positioning themselves below it and commanding the player to move up.

Every time the goal is reached – that is that all targets have a box placed on top of them – the game board will reset, and a new game will begin. The difficulty of the new game will have increased through the number of boxes and targets being increased by one. The player is informed of this through the console in the “Editor” tab.

Controls

To move the character, click on the D-Pad buttons using the mouse. The arrows directly correspond to the direction that the character will move.

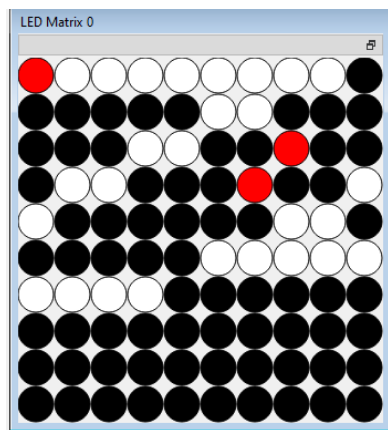


The game can be reset at any time by toggling switch 1 on the Switches tab.

The game can be ended at any time by turning switch 2 on. Take note to not keep switch 2 on while running the program as the game will end immediately in this case.

Debugging

On occasion there is an error with rendering the screen. This error often occurs when changing the number of LEDs in the screen. And resembles the following:



In order to fix this error, navigate to the "Editor" tab, select any section of code, cut out this section by using ctrl+x, save using ctrl+s, then paste the code back in using ctrl+v and save once again using ctrl+s. This should solve the problem.