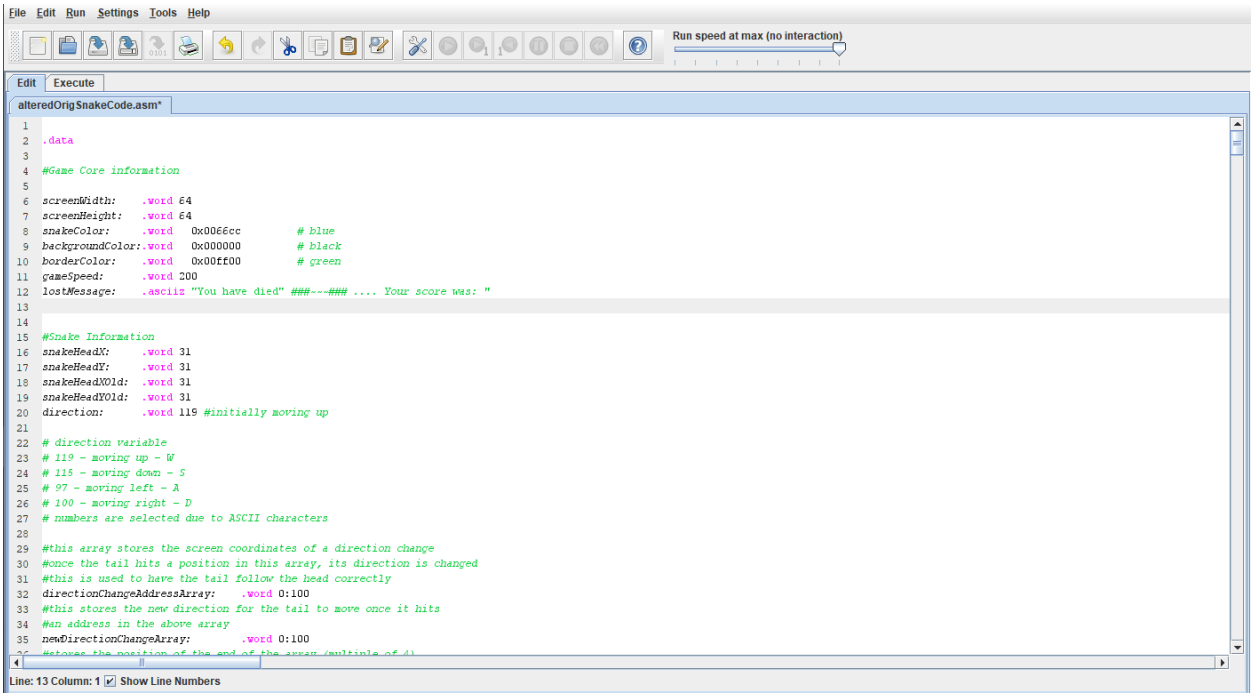
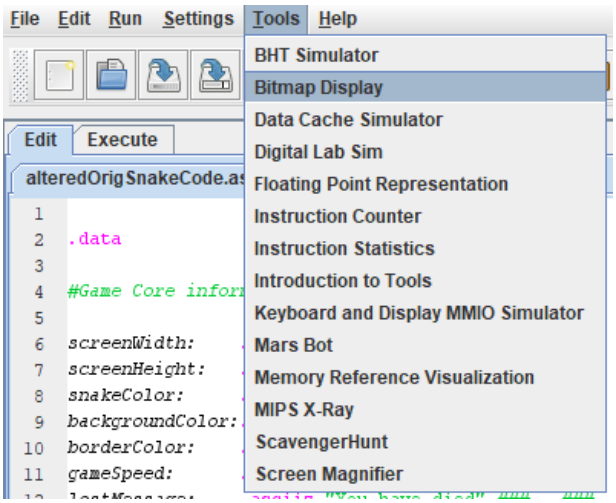
How to navigate to Bitmap Display and Keyboard and Display MMIO Simulator

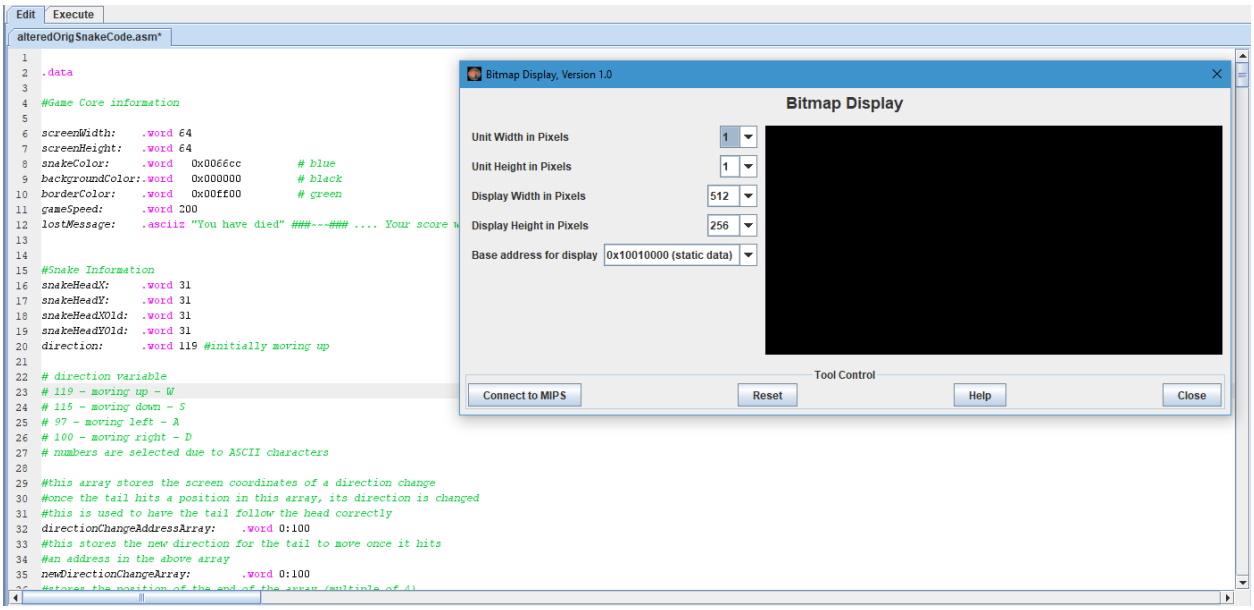
Bitmap Display:



When you load your file into MIPS, at the top of the taskbar, click the Tools tab to open it up. In the tools tab, you are given a handful of functions and tools that you can use while running your program. If you looked through the list, you will find the Bitmap Display tool. Click it to open it.



When you open the Bitmap Display, you will be greeted to new window that shows 5 pull down menus on the left hand side, a black screen on the right hand side, and a few buttons on the bottom of the window. If you want to use the Bitmap Display with MIPS, select the “Connect to MIPS” button at the bottom-left hand corner of the window. The display should now be connected to MIPS.



At this point, you can click run on your code and run it on the Bitmap Display. **HOWEVER,** if you have particular settings and unit sizes that you would like to use, you must manually adjust them on the left hand side of the bitmap display window. In the code we run we have these settings defined:

Bitmap Display Settings:

Unit Width: 8

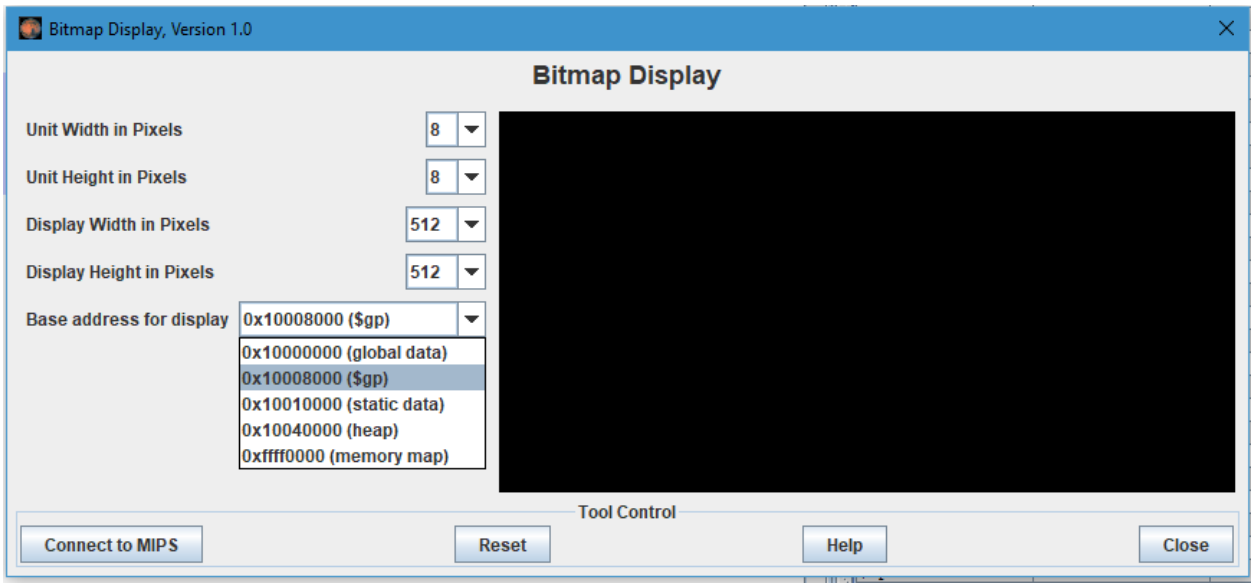
Unit Height: 8

Display Width: 512

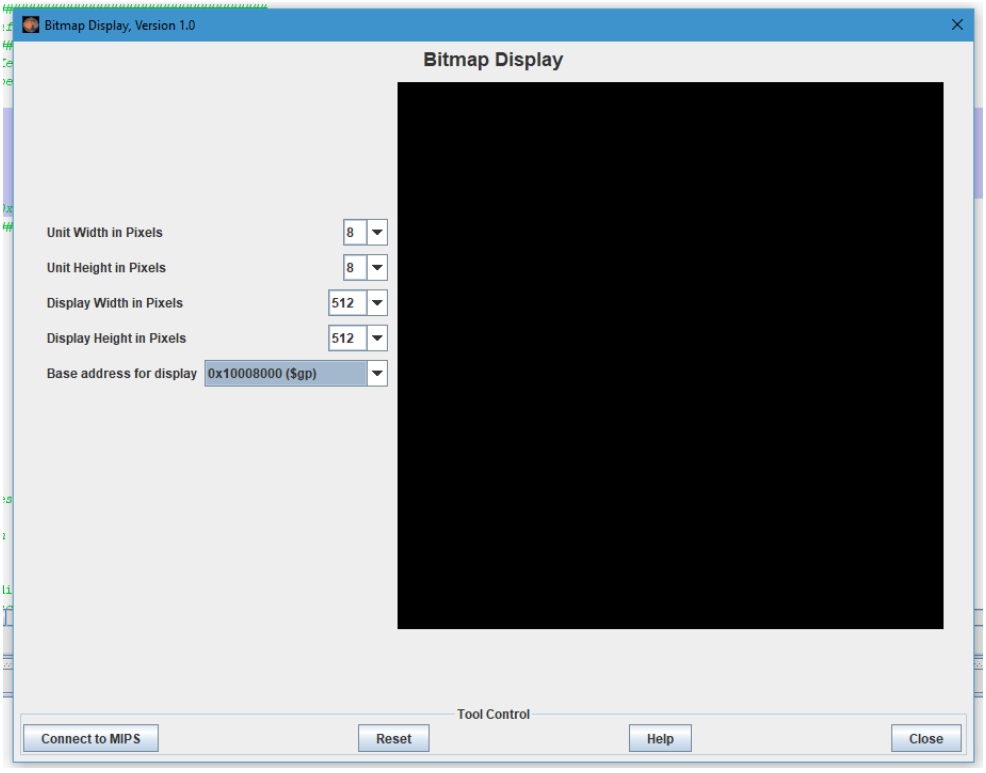
Display Height: 512

Base Address for Display: 0x10008000 ($gp)

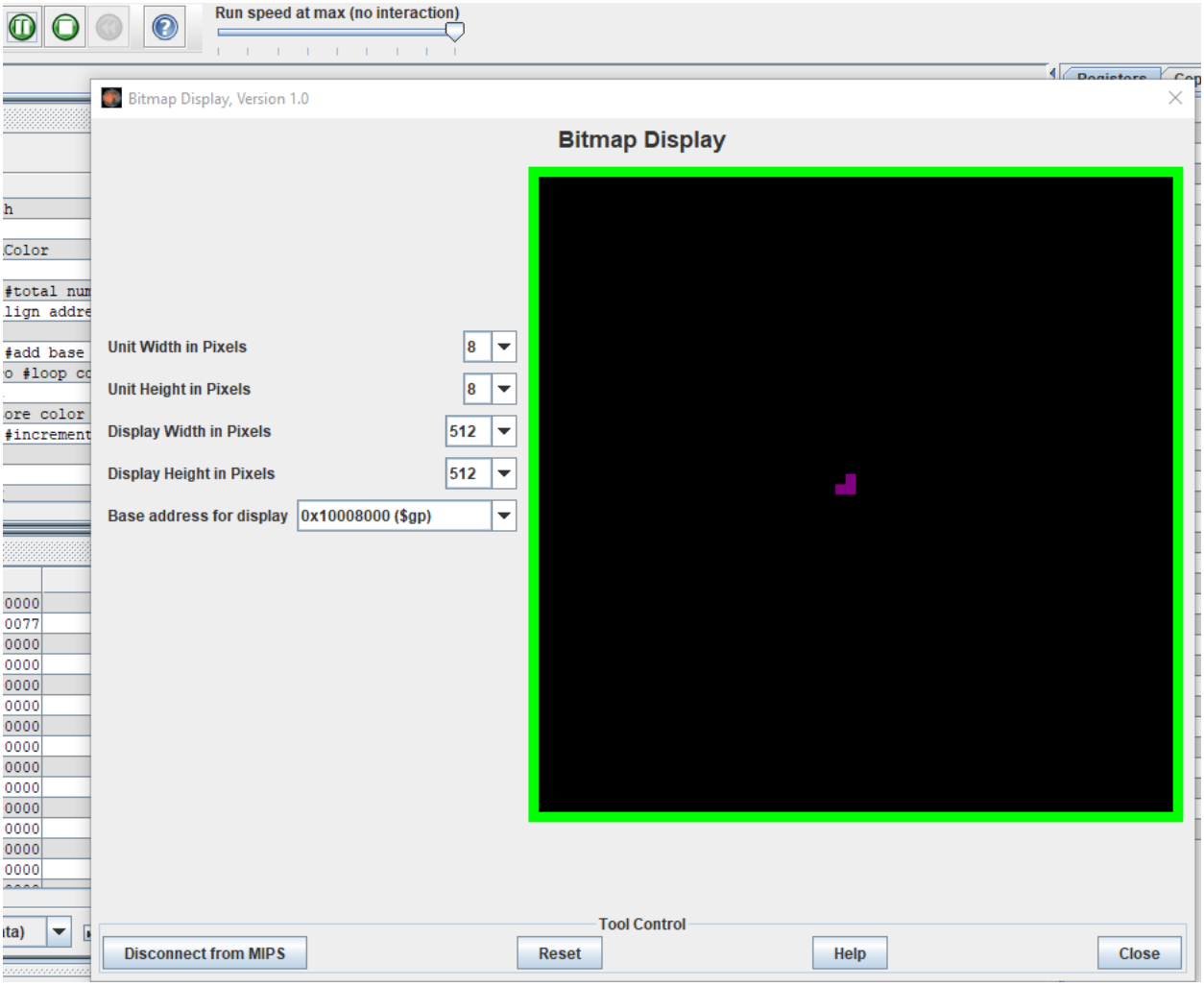
You are able to type in the unit size or select from preset options in the drop down menu.



*NOTE: If you are resizing the display height or width, the window will not automatically update the size itself. To see the full scale of the display, you must drag the window on the sides to expand it to be the proper size to see the display.



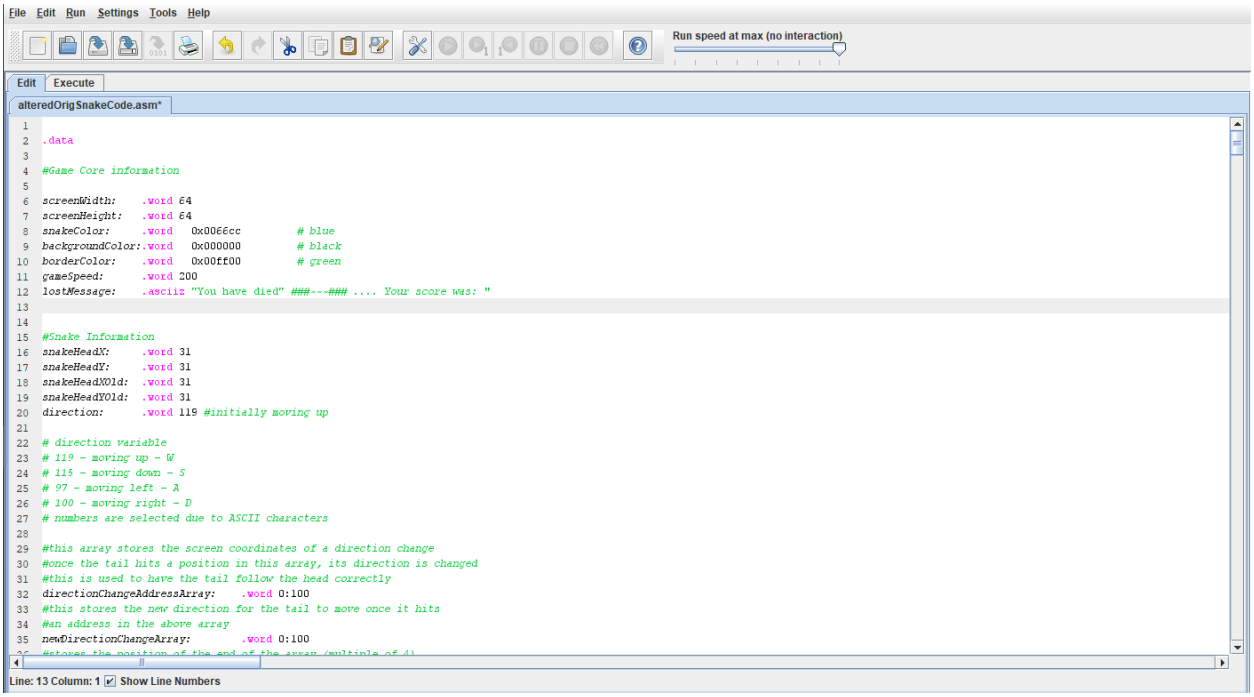
Once you have your settings up and you have a code that will display on the Bitmap, execute your code by clicking assemble in the run tab and click the play button in the main MIPS window to let it run.



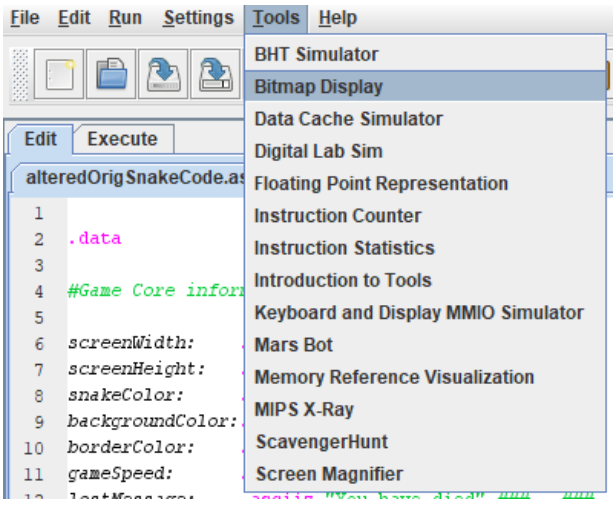
If nothing appears on the Bitmap that means one of two things:

1. The display messed up and it didn't recognize that the code was running, in which case you click the reset button at the bottom of the window, stop the code, assemble the code, and run it again. This should fix it.
2. Your code is not working properly to load the bits and you need to debug before running again.

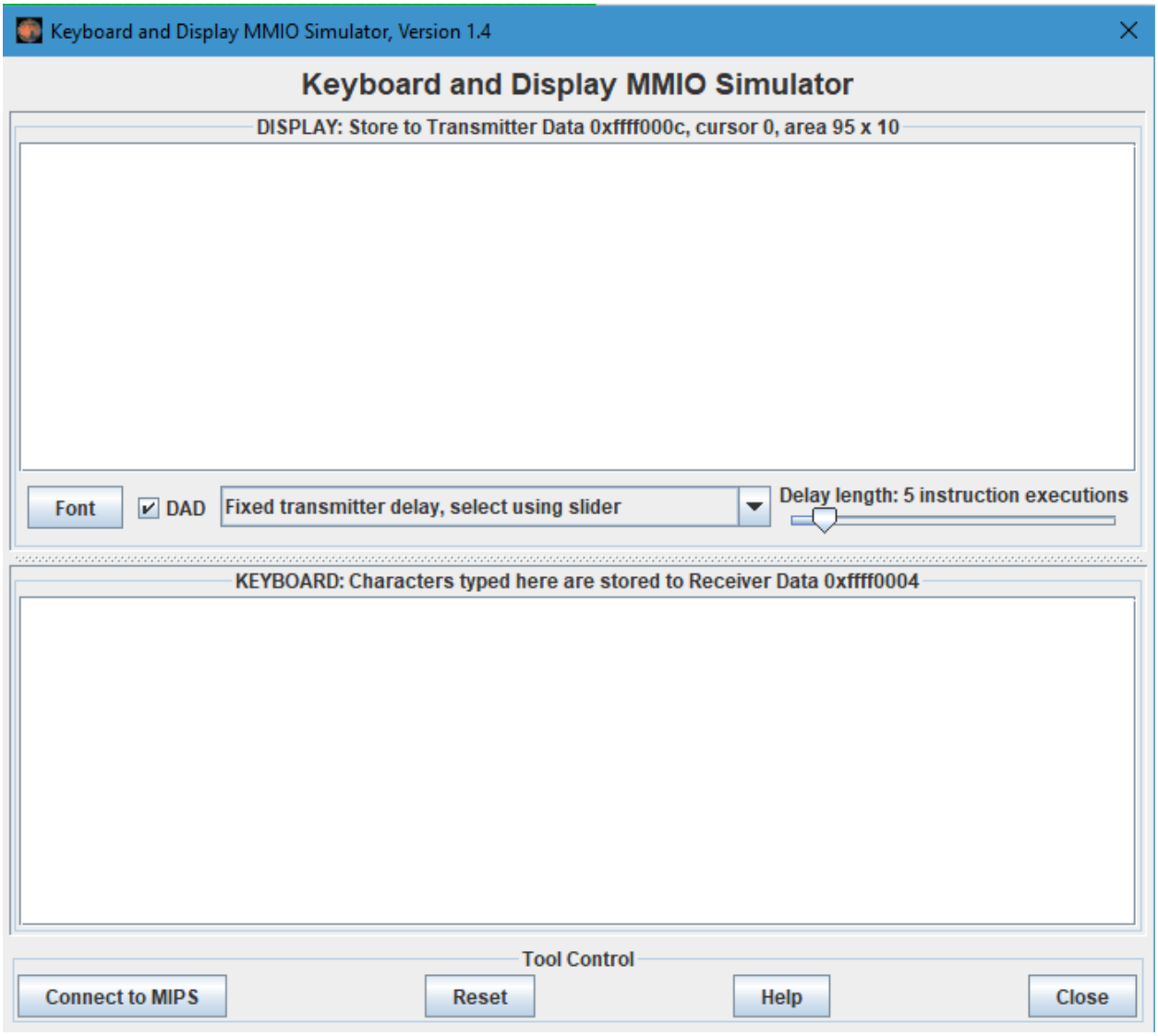
Keyboard and Display MMIO Simulator:



When you load your file into MIPS, at the top of the taskbar, click the Tools tab to open it up. In the tools tab, you are given a handful of functions and tools that you can use while running your program. If you looked through the list, you will find the Bitmap Display tool. Click it to open it. After you open it, go back the tools tab and open the Keyboard and Display MMIO Simulator.



Now that you have opened up the Keyboard and Display MMIO Simulator window, you will want to connect it MIPS with the button at the bottom of the window.



In order to use the keyboard inputs as your directional inputs, you will want to make a code that binds the keys you want to use. By using the ASCII characters, you will be able to bind the keys you want as inputs.

Direction variable example:

119 - moving up - W

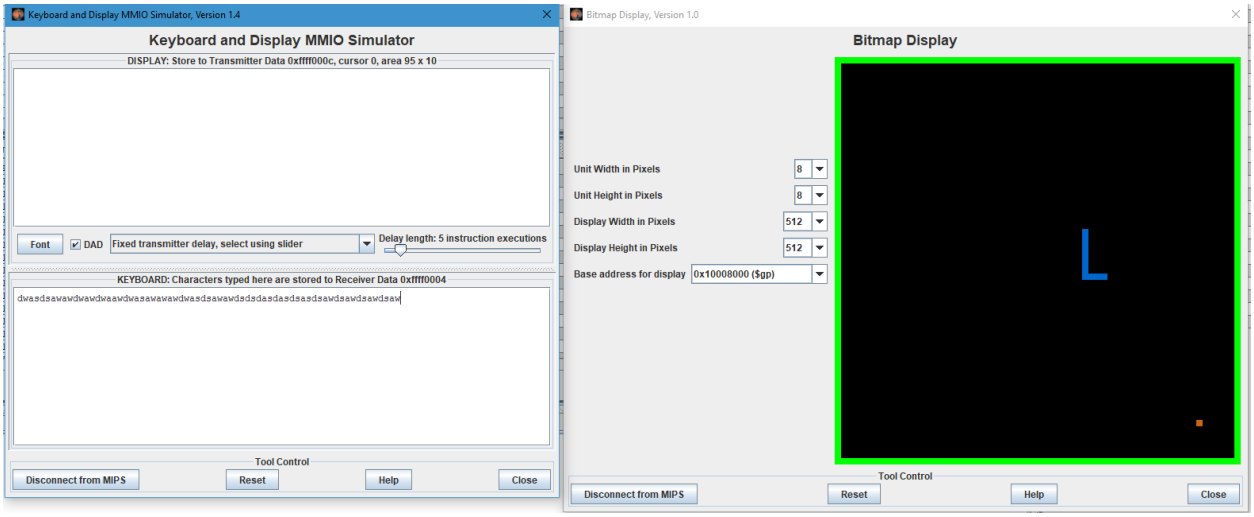
115 - moving down - S

97 - moving left - A

100 - moving right - D

Numbers are selected due to ASCII characters

If you have a code set up and ready to run it, **MAKE SURE** you have the Bitmap Display setup and connected to MIPS. In the bottom section the keyboard window, you will be pressing your key inputs there to control whatever you have on the bitmap display.



*NOTE: Do not hold down a key for a long time on the Keyboard Simulator. Holding it down will constantly add inputs and that can lag your system, potentially crashing MIPS.