Testing B2BCD from HW2 Part 2

Here are some ideas for testing Part 2. If you upload your project to the DE2 board and it doesn't work or if you would just like to explore ModelSim, I have provided the testbench testPart2.v. This testbench doesn't test all of Part 2, just B2BCD.v. My B2BCD is slightly different from the one shown in the Homework 2 assignment file. Instead of outputting the entire most significant digit, I just output the compare bit (z), and I call it MSb as shown below.

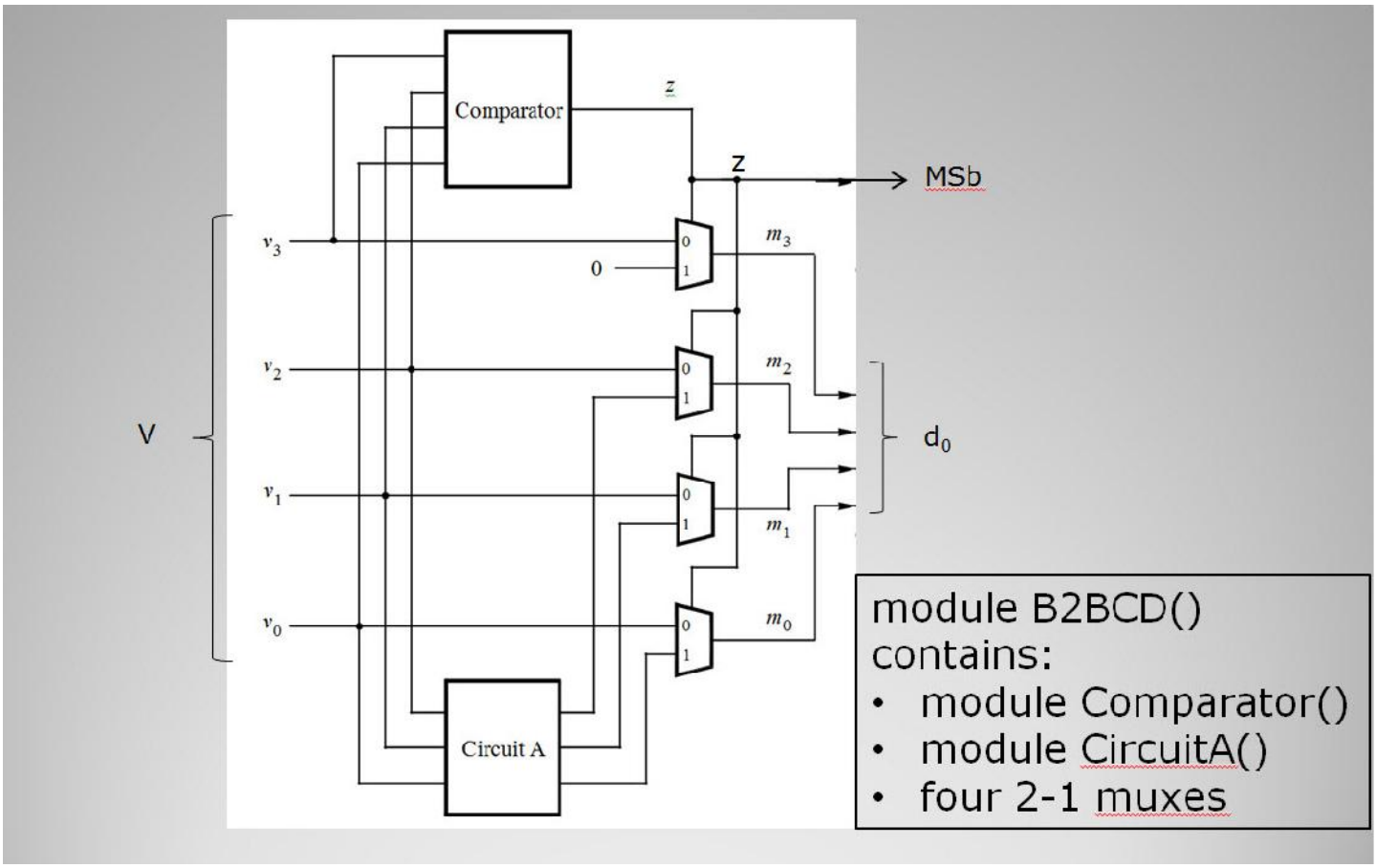

Figure 1. My Version of B2BCD.v

And I add the three bits of 0 in Part2.v itself as show below.

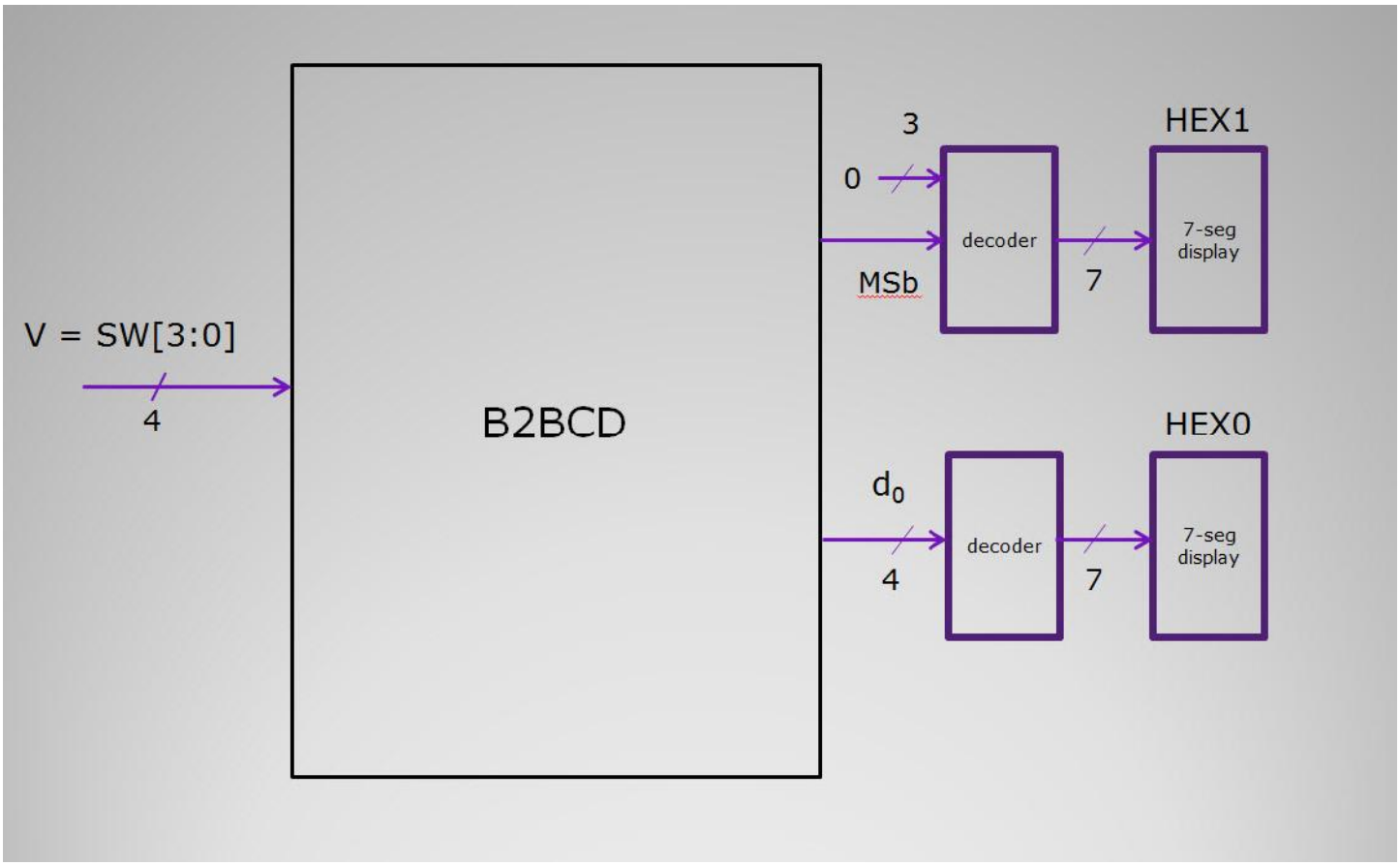

Figure 2. My Version of Part2.v

You can organize your modules any way you want, but the testbench, testPart2.v, assumes the structure shown above. If you have a different structure for your B2BCD, then you'll have to make (presumably minor) changes to the testbench.

The procedure now is to put testPart2.v in your HW2\Part2 directory and start ModelSim. Then follow the procedure we discussed in class (which is the same as the procedure discussed in the video ModelSim_1) to create a new library called 'work', compile the necessary modules and run the simulation. You should end up with a ModelSim output that looks like the figure below.

Figure 3. Result of Running ModelSim

The input to B2BCD is shown in the left column and the outputs are on the right.

If you get this result from your ModelSim simulation, but you don't get the right things to display in HEX1 and HEX0 you probably have an error in your decoder module.