








ModelSim Tutorial

1. From your desktop, open ModelSim (you will find it under “All Programs → ModelSim SE6.3f → ModelSim”).
2. **Create a “New Project”**
 - a. On the menu-bar, **select File → New → Project**.
 - b. **Type** project name.
 - c. **Choose location** (directory) where you want to save it by clicking “Browse” button.
(**Important:** if you're running ModelSim on PCs in the MCECS labs, be sure to use a directory that begins with a drive letter in a form like “N:\ECE 351\Lab Project1”.)
 - d. **Click “OK”**.
3. Add existing files:
 - a. From the “**Add items to the Project**” window, **select** the “**Add Existing File**” option(icon) and add source files by clicking “**Browse**” button.
 - b. **Select** source files and **click “Open”** and “**OK**”.
 - c. **Close** “Add items to the Project” window.
4. Compilation step:
 - a. On the menu-bar, **select Compile → Compile All**
Or click the “Compile All” icon () on the Main window toolbar.
 - b. If a red  appears next to your source file, your Verilog/SystemVerilog file has an error that needs to be fixed.
If a green  check appears, the compilation step passed.
5. Simulation step:
 - a. On the menu-bar, **select Simulate → State Simulation**
Or click the “Simulate” icon () on the Main window toolbar.
 - b. From the “**Start Simulation**” window, **click “(+)”** icon next to the “work” library.
 - c. Load the test module into the simulator by **selecting a top module**.
 - d. **Disable** optimization option by **removing check mark next to “Enable optimization”**.
 - e. **Click “OK”**.
6. Run step:
 - a. In the “**Objects**” window, **select all of the items (signals) listed** using the standard “**Shift-click**”. Once they are all selected, “**right-click**” and **select Add → To Wave → Selected Signals**.
This should open up the “**Wave**” tab with all of the signals you selected from “Object” window.
 - b. On the menu-bar, **select Simulate → Run → Run –All (or Run 100)**.

Or click either the “Run 100” icon () or “Run –All” icon () on the Main window toolbar.

Also you can enter command “run –all” or “run 100” in the “Transcript” window.

- c. When “**Finish Vsim**” window pops up, **click “No”**. (If you click “Yes”, it will close the ModelSim GUI.)
7. To print out the waveform:
 - a. **Click “Wave” tab** and adjust waveforms by clicking “**Zoom**” buttons ().
 - b. Go to the menu-bar, **select File → Print**.
 - c. Choose printer name and click “OK”.
 8. Exit from ModelSim GUI:
 - a. On the menu-bar, **select File → Quit** and **click “Yes”**.