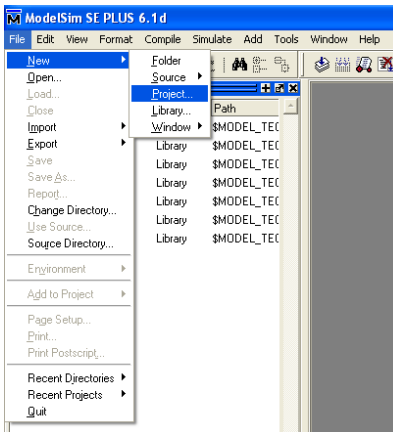


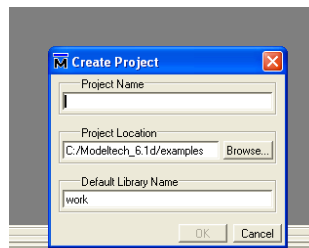
BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI
ModelSim Tutorial

“Simulation is third pillar in scientific study beside theory & practical”

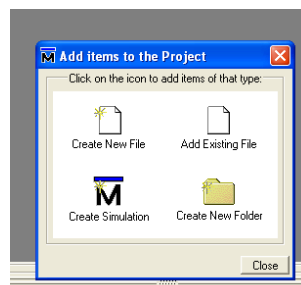
1. Create a New Project



2. Save it to **My Documents. The default library should be **work**(more on this later).**

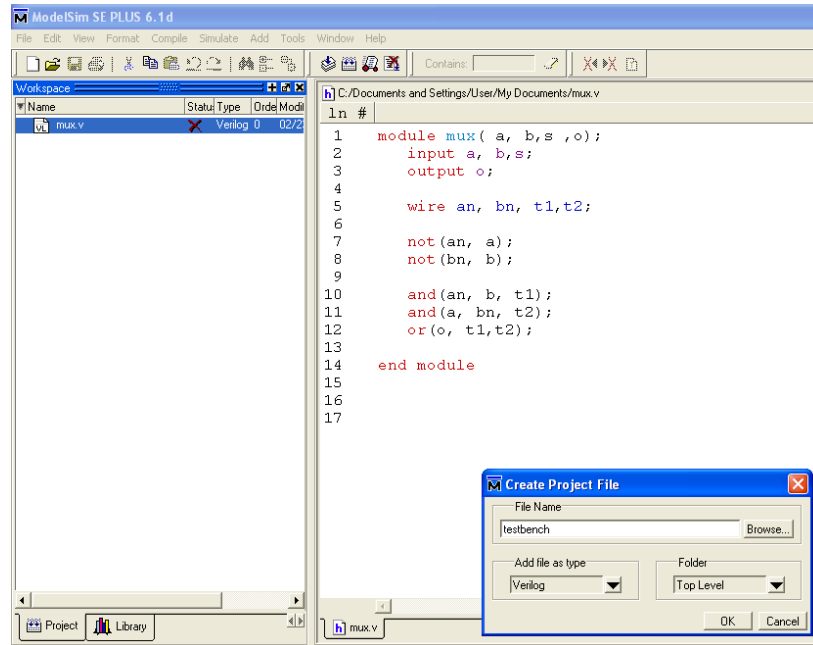


3. Add /create files new files to your project.

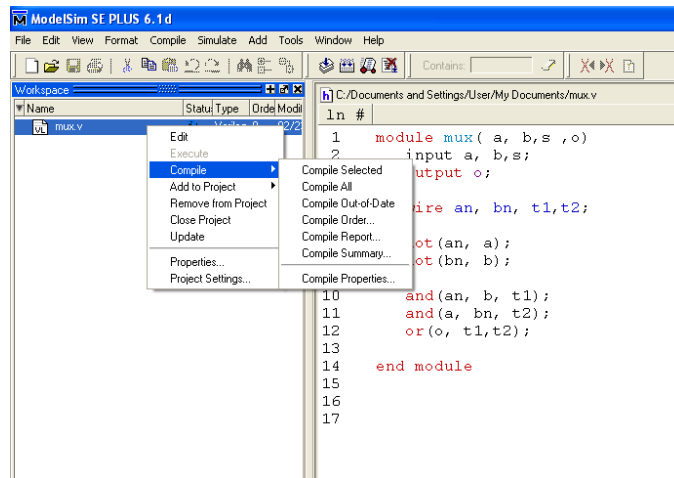


if you select Create File choose **VERILOG** Type of file in the dropbox menu, bcoz all file shoud have **.v** extension

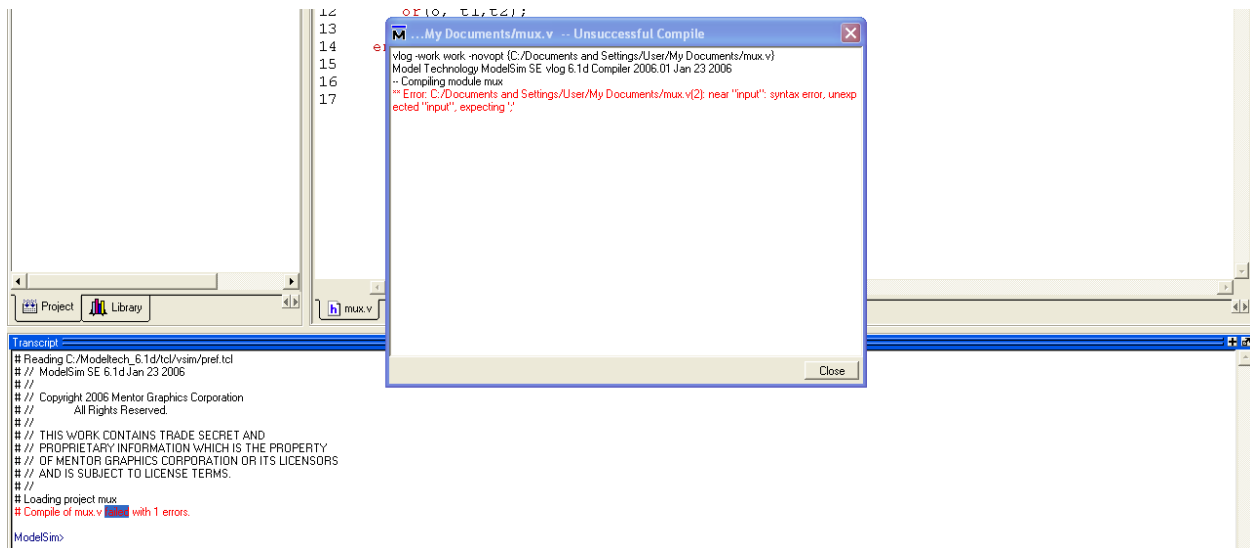
4. **Write code** into your files. Left window shows your project and right window shows your code.



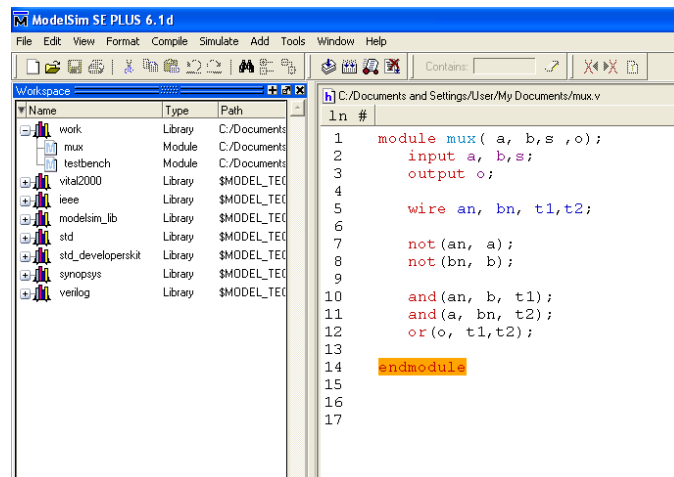
5. Once code is written, **compile** it.



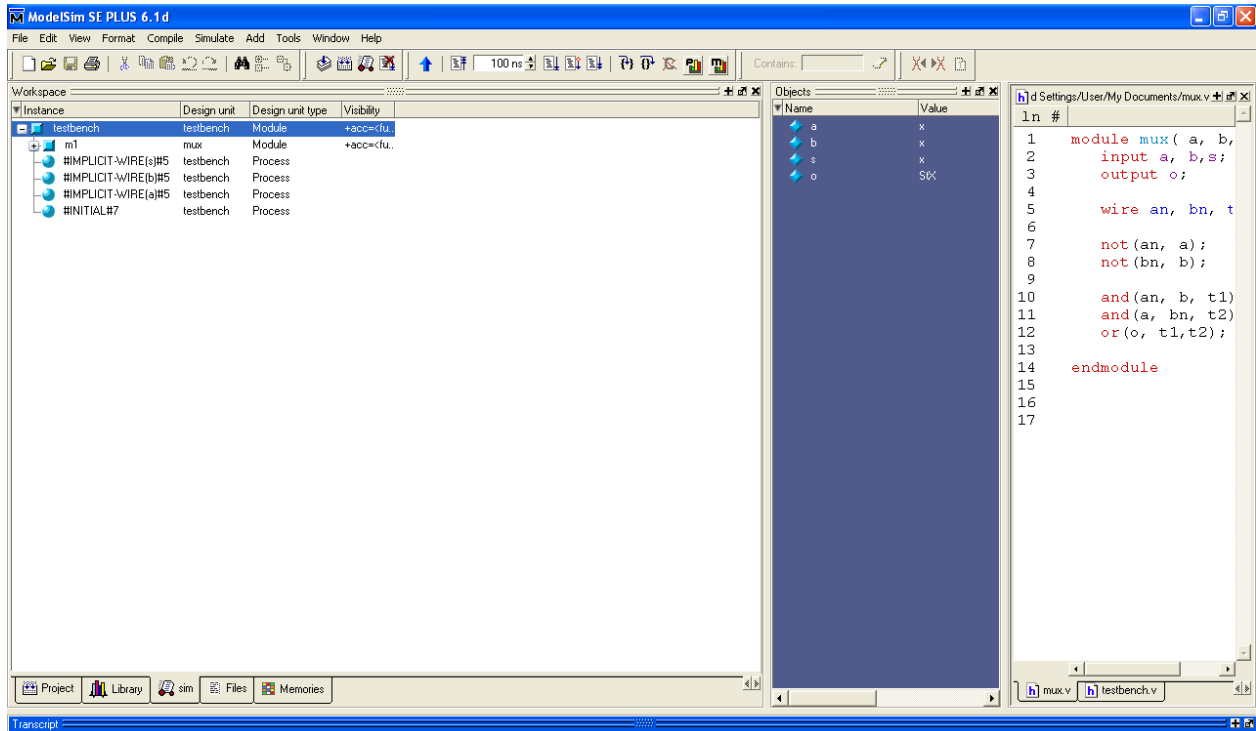
6. **Errors in compilation** are written in lower window. Double clicking on error will give you detailed list of errors.



- Once you have compiled your code, we simulate it to check functionality (testing). **Switch to library tab** in left window. Your compiled modules are in your library **work** (added to work when project was created).

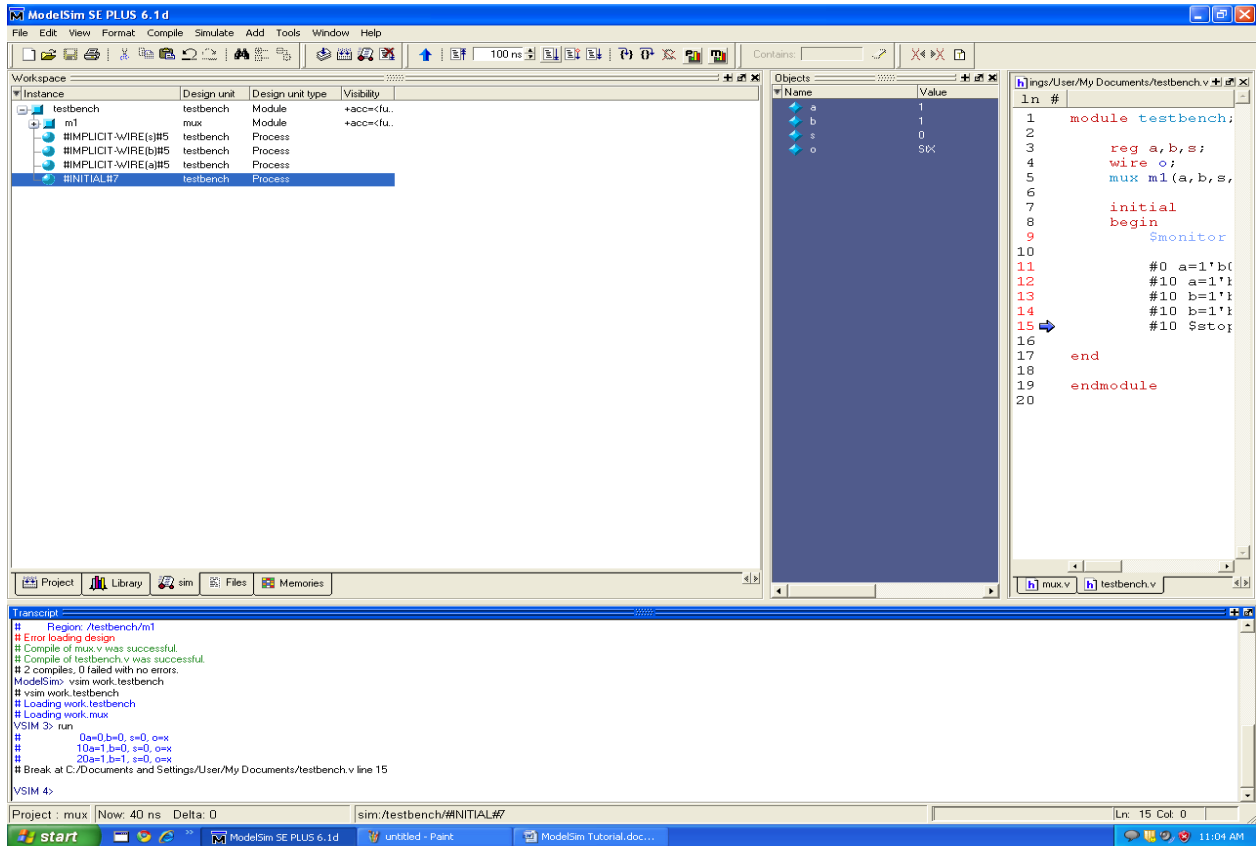


8. Load your **testbench** for simulation. Remember only testbench can run not all modules that you write.



to load double click on testbench module

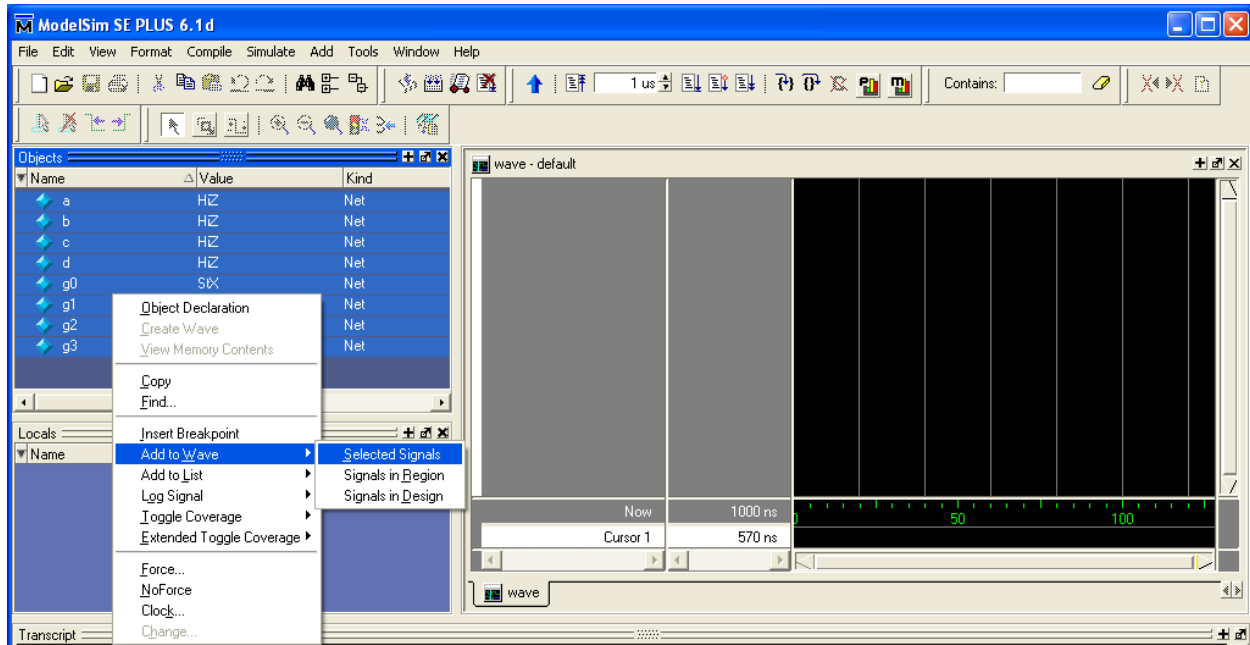
9. Run your testbench.



To run, select Simulate->Run->Run All

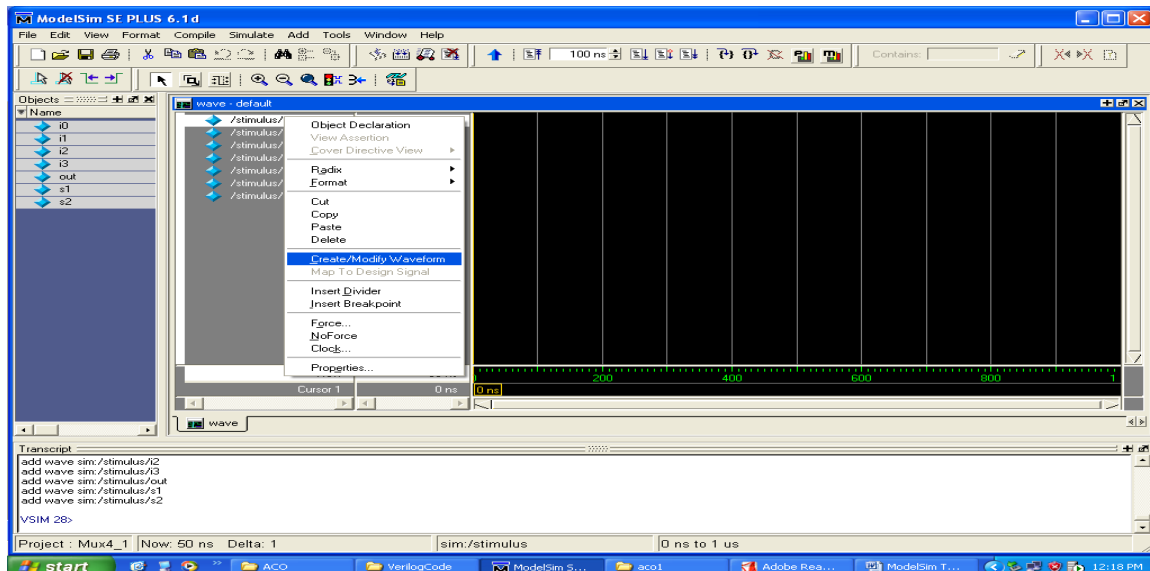
You will see the output in lower window.

10. Another way to **simulate is through waveform**. Load your testbench or module. Add your signals to wave.



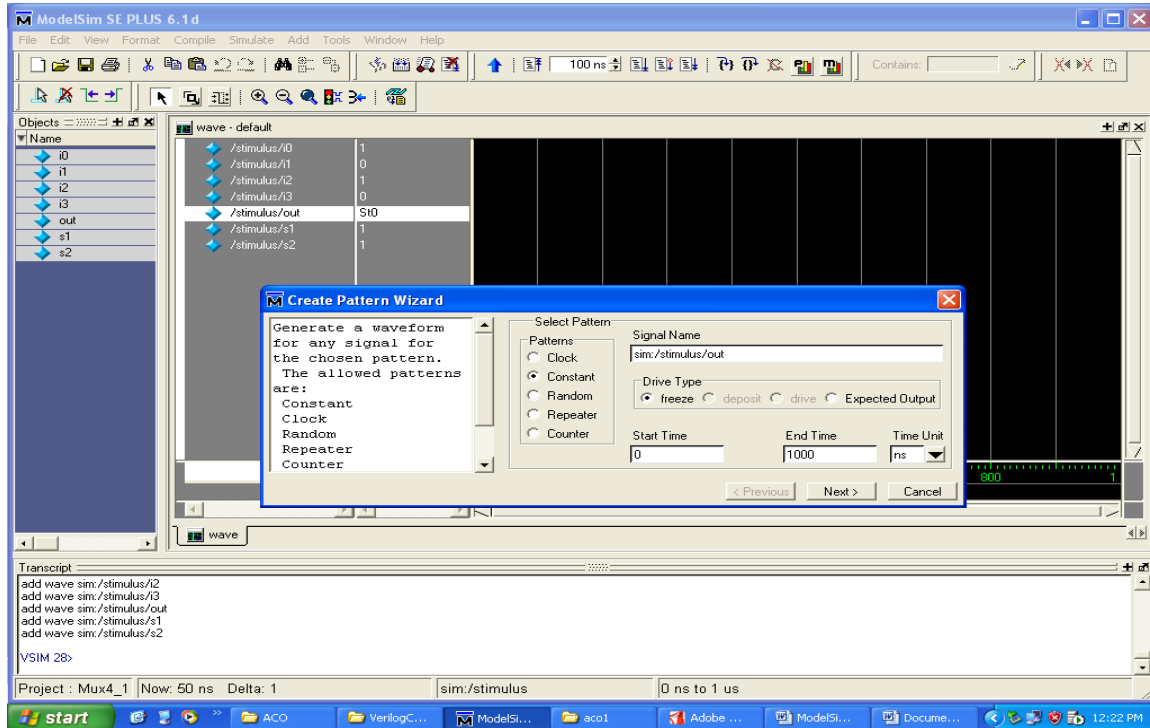
Select all the signals (input and output signals). Right click and select Add to Wave -> Selected Signals. This will add all the signals to wave.

11. Assign value to signals by clicking create/Modify waveform.

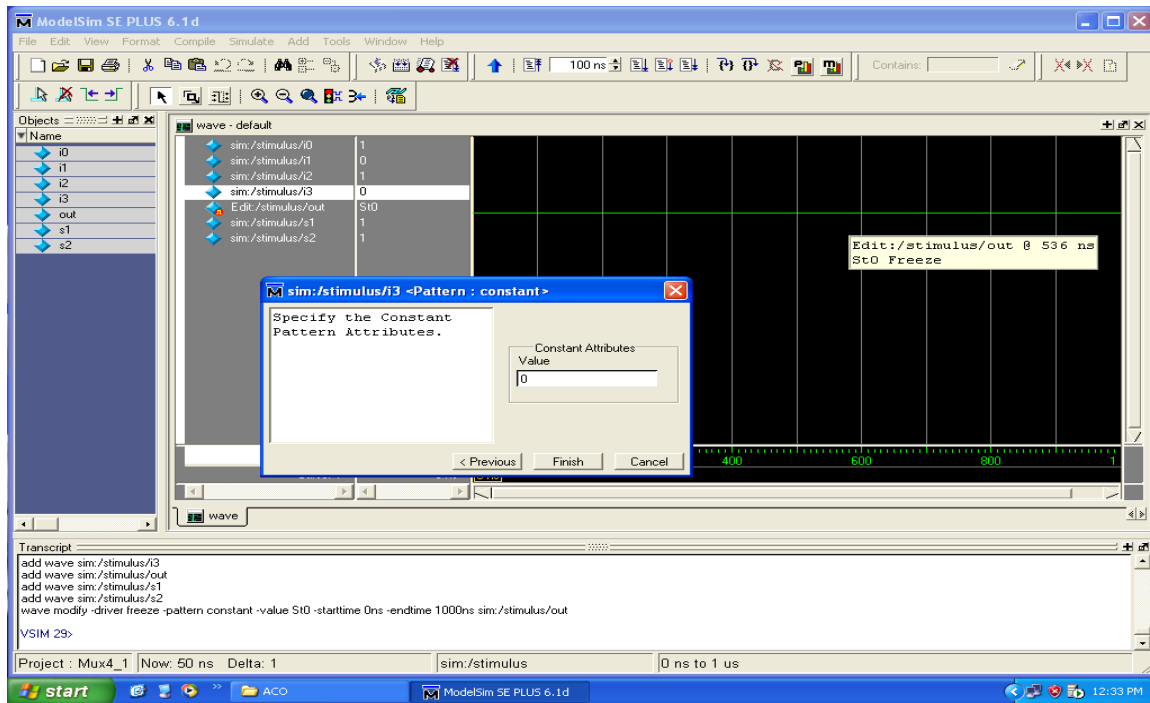


Note: In create-Modify Waveform window select Pattern as Constant.

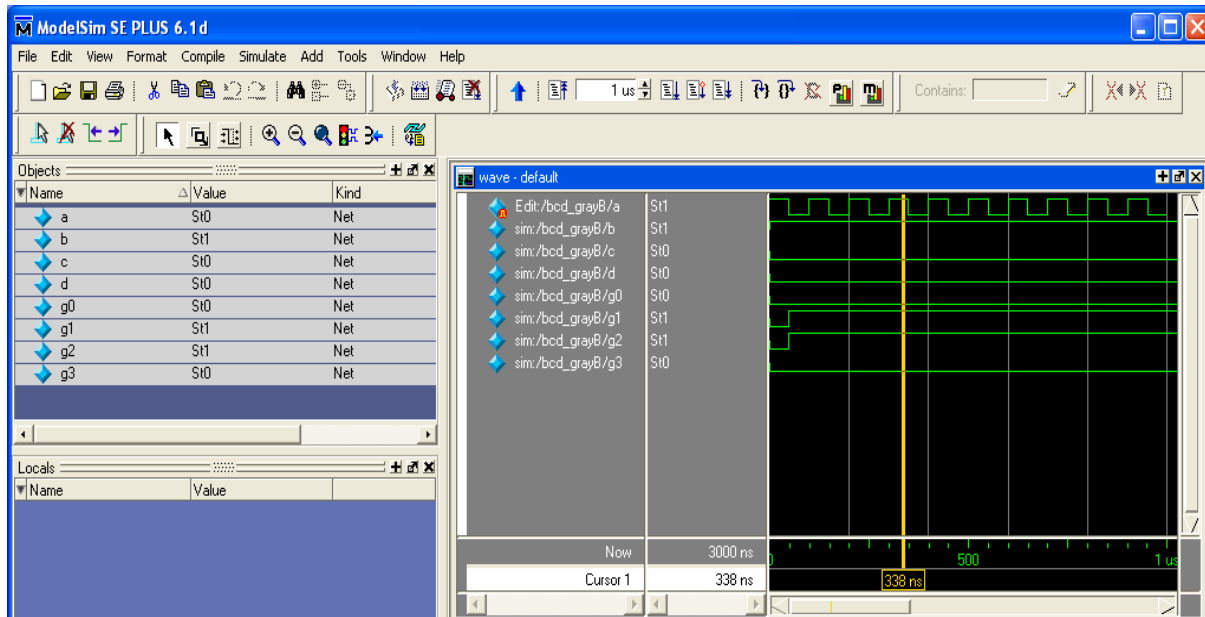
Creating a wave



Change the values as required



Wave output



Note: to see the output waveform click Create/Modify waveform window->select constant pattern->click next without changing the value click finish.

12. Happy Coding 😊, removing compilation error 😊 and most importantly debugging 😊!!!!!!!