

## LAB 3

In this part you will modify the calc.v file given to you so that it synthesizes on Xilinx ISE and finishes simulation correctly. Check out the calc.pdf about the operations.

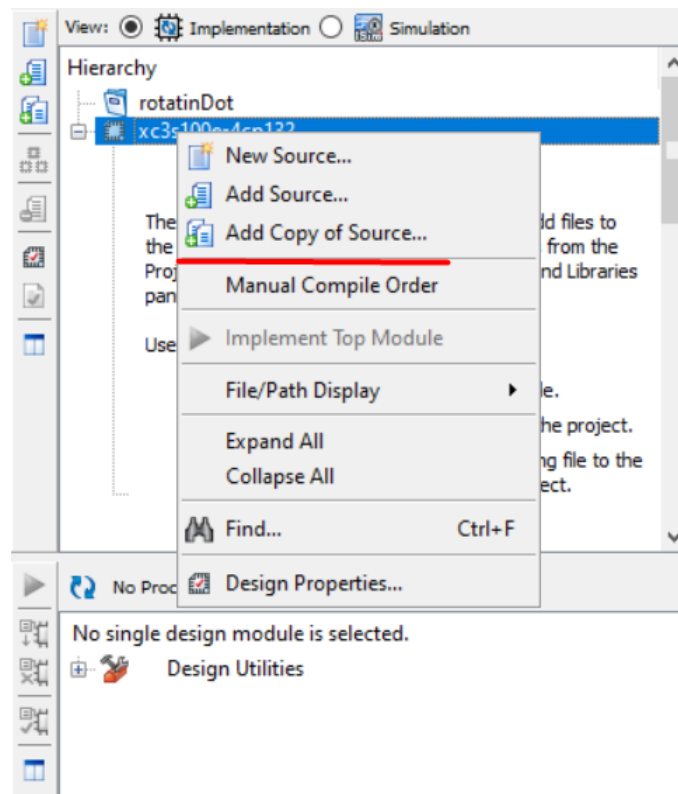
0. Open Xilinx ISE Design Suite and open a New Project. Name the Project “calculator” and choose the “C:/Xilinx/CS240” folder or your own CS240 folder.
1. Click on Next and make sure you have the same configurations chosen in the next window as the ones we have in the figure below.

The screenshot shows the 'New Project Wizard' dialog box, specifically the 'Project Settings' step. The title bar reads 'New Project Wizard' with a close button. Below the title bar, there is a back arrow and the text 'Project Settings' followed by 'Specify device and project properties.' The main area is titled 'Select the device and design flow for the project' and contains a table of properties.

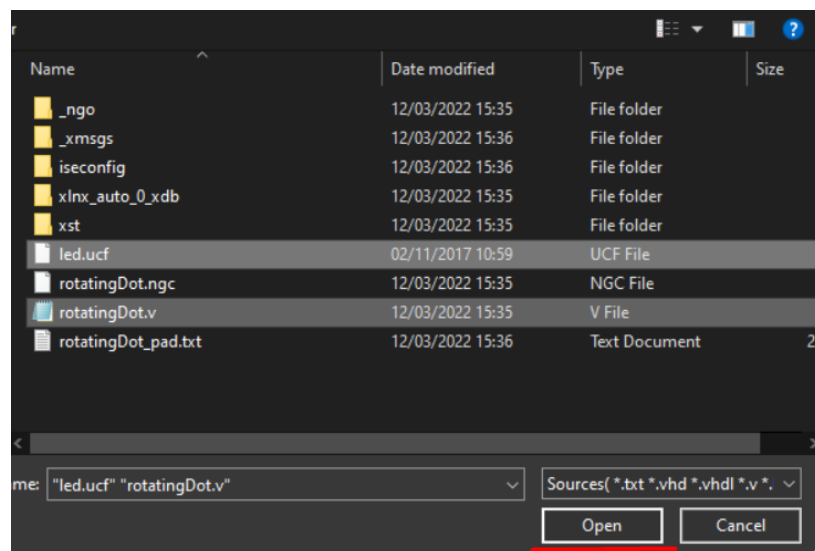
Property Name	Value
Evaluation Development Board	None Specified
Product Category	All
Family	Spartan3E
Device	XC3S100E
Package	CP132
Speed	-4
Top-Level Source Type	HDL
Synthesis Tool	XST (VHDL/Verilog)
Simulator	ISim (VHDL/Verilog)
Preferred Language	Verilog
Property Specification in Project File	Store all values
Manual Compile Order	<input type="checkbox"/>
VHDL Source Analysis Standard	VHDL-93
Enable Message Filtering	<input type="checkbox"/>

At the bottom of the dialog, there are three buttons: 'More Info', '< Back', and 'Next >'. The 'Next >' button is highlighted with a blue border. A 'Cancel' button is also present to the right of the 'Next >' button.

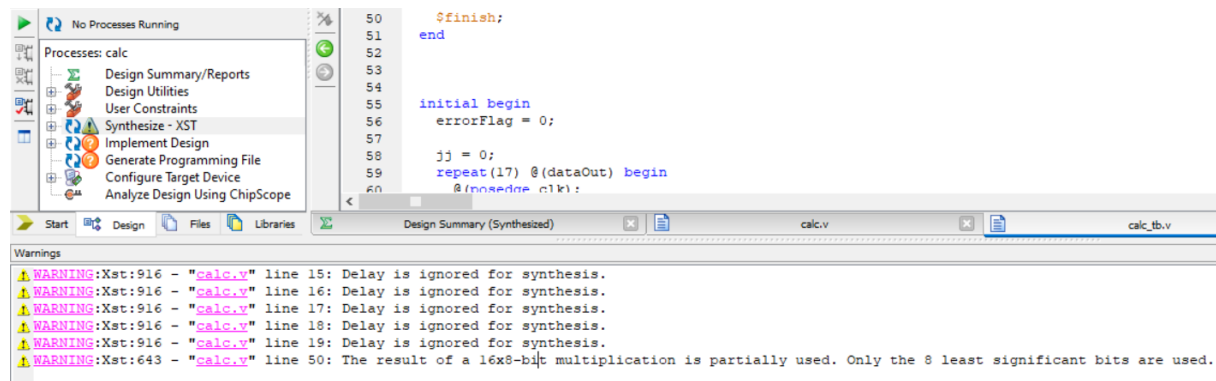
2. Click on Next, and then Next again.
3. Like in the image below, right click on “xc3s100e-4cp132” and click on “Add Copy of Source”.



4. Find the calc\_tb.v, calc.v, data, result files and choose them, and click on “Open”, like in the figure below. Note that to choose multiple files, you can press “ctrl” key and click on those files.



5. Modify calc.v so that your design passes the simulation without errors.
6. Click on “Synthesize - XST” on the left bottom panel. Make sure you have the same result as is shown in the figure below.



7. Show us your work before you go on to the next part.