Common Lab Errors

You may have made one of the following common errors if you're having problems with your lab.

Wrong File Name Extension Using `.v` (Verilog) as the file name extension instead of `.sv` (System Verilog) will result in syntax errors for declarations of **logic** types and **always_ff** statements.

No Project You won't be able to compile if you start by creating a source file instead of a project.

In this case, create a project, move the source file to the project folder, then add the file to the project (`Project > Add/Remove Files in Project...`).

Wrong Project Folder Creating the project in the Quartus installation folder, the default file folder, means:

- The project and its files are available to anyone who uses that computer until it reboots.
- The project and all its files are deleted when the computer reboots.

Instead, use a personal folder: the `Z:` drive, OneDrive, or a USB "flash" drive. You can also use the `D:` drive if you remove your files before leaving the lab.

Wrong Module Name There must be a module whose name matches the project name. Its inputs or outputs will be the CPLD's inputs and outputs.

For example, a project named `lab1` must have a module named `lab1` whose inputs and outputs correspond to the CPLD input and output pin names.

Incorrect or Missing Pin Assignments In this case the lab won't work. There will be warnings but these are often overlooked.

If you've used the same pins as in the lab instructions you can program the `.pof` file from the course website to check that you've connected everything correctly.

Missing USB-Blaster Follow the troubleshooting steps in the Appendix to the *Software Installation and Use* document if the programmer can't find the USB-Blaster.

Multiple Project Folders If you "start over" in a different folder you may mix up files, settings, and programming files from different folders. If you've done this, be careful about the drive and folder you're working from.

Incorrect Indentation Bad indentation often hides syntax and design errors. Indent your code correctly before asking for help. Use the form on the course website or an AI chatbot.

Syntax Errors These will show up as red error messages with the line number in parentheses. If you can't figure out the error ask the lab instructor or an AI chatbot such as ChatGPT (which can also review your code and make suggestions).