**Working with Altera Quartus**

**Creating a new Project**

1. From Desktop / search for quartus-> Open Quartus.(**8.1**) **[DO NOT OPEN Quartus 11]**

2. Click File->New Project Wizard->Next

3. Fill out the following:

* Working directory? – Browse->Create a folder in a directory **other than** **C drive (Downloads, Desktop are parts of C drive, DO NOT OPEN A PROJECT THERE!).**
* *The name of the folder should* ***not*** *start with a number or any special character!*-> Select the folder
* What is the name of the project->Type a name and remember it (Say “expt1”). Same name is going to be copied to the next box automatically.[**DO NOT start the name with any special character or number**]
* Press next.

4. Press next **again**

5. Select Device Family: **FLEX10KE** and press next.

6. Fill out the following in **all three pairs of boxes:**

**Tool name: 1.** Custom / **2.** Custom / **3.** Custom

**Format:** **1.** Verilog HDL/ **2.** Verilog/ **3.** Verilog

Press Next->Finish

**Creating a New Verilog file:**

7. From the Quartus application->File->New->Verilog HDL File->OK

8. Write the code and save it with the same name as that given in expt1 with extension of .v

(Example: expt1.v)

9. The **project name** [expt1] and the **module name** [expt1] should be the same.

10. **COMPILE** the code.

**Viewing RTL Circuit**

\*\* RTL circuit: **Tools-> Netlist viewer->RTL viewer.**

**Output: Creating a new vector Waveform File & Simulation**

11. File->New->Vector Waveform File

12. Save as-> Save with the ***same filename*** as the .vwf file (Example: expt1.vwf)

13. Right click on Name->Insert->Insert Node or BUS

14. Click Node Finder **(Make sure** that you’ve compiled the code earlier in step 10).  
 Filter: Pins: all

Look in: Filename (Example expt1.v)

Click list->Click “>>” -> OK -> OK

15. Right-click on each **input**->Value->Clock and set up the clocks.

16. From the menu -> Assignment->Settings->Simulator Settings

* Simulation Mode: **Functional**
* Click OK.

17. From the menu -> Processing-> Generate Functional Simulation Netlist

18. Processing-> Start Simulation

**Some Extra information**

19. For inserting custom inputs in the vector waveform file, watch this tutorial : <https://youtu.be/54F7N2vncLY?feature=shared>

20. For changing grid size: go to Edit > Grid Size > change the period of each grid

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