Software

Modelsim and Quartus

We will use Modelsim-Altera Starter Edition for simulation. Install it on your computer if you can. We will use Altera Quartus Prime for synthesis. You may find it useful to install it as well.

Documentation

The best Modelsim documentation is probably the PDF manuals that get installed with the software at:

```
<installation directory>/modelsim_ase/docs/pdfdocs
```

The documentation for Quartus is voluminous, somewhat disorganized and often out of date. The main entry point appears to be:

https://www.altera.com/products/design-software/fpga-design/quartus-prime/support.html

However, the definitive answer to your question is most likely in the 1939-page, 28 MByte Quartus prime handbook. Note that in the version 16.1 PDF manual Volume 2 (Design Implementation and Optimization) starts on page 1135 and Volume 3 (Verification) starts on page 1467.

Other Software

The Quartus and Modelsim text editors recognize Verilog keywords and begin/end blocks which helps identify syntax errors. You may prefer verilog-mode for emacs and sveditor for Eclipse if you are familiar with these editors. Otherwise, Notepad++ can be used to format your code for submission.

I prefer to use gtkwave instead of Modelsim's wave viewer; it reads .vcd files directly.

Downloading

The above software is free. Modelsim and Quartus can be downloaded from the Altera Download Center. Some of the files are also be available in the *ELEX 7660 Software* folder on Sharefile.