

Assignment 2

1. Practice SpecC Tools

- Setup
 - `source /opt/sce-20080601/bin/setup.csh`
- Examine simple examples
 - `mkdir simple_tests`
 - `cd simple_tests`
 - `cp $SPECC/examples/simple/* .`
 - `ls`
 - `vi HelloWorld.sc`
- Practice the compiler
 - `man scc`
 - `scc HelloWorld -sc2out -vv -ww`
- Practice the simulator
 - `./HelloWorld`
- Practice the tools
 - `man sir_tree`
 - `scc Adder -sc2sir -o Adder.sir`
 - `sir_tree -bt Adder.sir FA`

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2. Convert JPEG Encoder application into SpecC Model

- Version 0
 - Compile JPEG Encoder with SpecC compiler
 - `scc jpegencoder.sc -vv -ww`
- Version 1
 - Introduce test bench
 - Stimulus behavior (`ReadBmp`)
 - Design-under-Test behavior (`JPEGencoder`)
 - » Seq. child behaviors (`DCT1`, `DCT2`, `Quantize`, `Zigzag`, `Huffman`)
 - » Communication through variables mapped to ports
 - Monitor behavior (`DiffGolden`)
- Version 1.1
 - Add timing to test bench
 - Print encoding time for each block (in Stimulus and/or Monitor)
- Version 2.0
 - Create a parallel model
 - Change DUT execution to `par { }`
 - Change communication to typed `double_handshake` channels
- Version 2.1
 - Create a pipelined model
 - Change communication to typed `queue` channels