

EECS 222C
System-on-Chip Software Synthesis
Spring 2013

Assignment 2

Posted: April 19, 2013
Due: April 26, 2013 at 12pm (noon)
Topic: Become familiar with SpecC command line tools

1. Setup:

Using the Linux account established for the first assignment, login remotely into one of the hosts for this class:

```
gamma.eecs.uci.edu  
omicron.eecs.uci.edu
```

After logging in, create a new directory named `hw2` (in parallel to your previous `hw1` directory) and work inside this directory. Note that there's nothing to submit for this assignment (no deliverable), but it helps in discussion when everybody has the same setup.

In order to use the SpecC tools that we need for this and the following assignments, you need to execute a setup script that modifies your command search path, as follows:

```
source /opt/sce-20100908/bin/setup.csh
```

You will need to run the above command whenever you login to the server. This is also needed whenever you start a fresh shell.

Note that we may need to use different versions of the SpecC tools for different assignments later, so it is *not* recommended to hard-code the above command into your shell setup script (`.cshrc`).

2. Task A: Examine some simple SpecC examples

The first task in this assignment is to install and examine some simple SpecC examples, so that you become familiar with the language and its syntax and semantics.

In your `hw1` directory, do the following:

```
mkdir simple_tests
cd simple_tests
cp $SPECC/examples/simple/* .
ls
vi HelloWorld.sc
vi Adder.sc
...
```

Study the examples! Browse and read through the source files and try to understand the SpecC commands used in the application.

3. Task B: Using the SpecC compiler to execute the examples

The SpecC language and its execution semantics are much easier to understand when you run the examples. For that, you need to compile the source code into an executable using the SpecC compiler `scc`.

In your `simple_tests` directory, do the following:

```
man scc
scc HelloWorld -sc2out -vv -ww
./HelloWorld
```

After successful compilation, the last command runs the example.

4. Task C: Practice the SpecC command line tools

In addition to the SpecC compiler `scc`, there are many other SpecC tools available that operate in text mode on the command line.

For example, you can do the following:

```
man sir_tree
scc Adder -sc2sir -o Adder.sir
sir_tree -bt Adder.sir
sir_tree -bt Adder.sir FA
```

The previous commands are very helpful in understanding the structure of a SpecC model.

4. Submission:

For this assignment, there is nothing to submit!

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