Assignment 3

1. Setup and simulate a SpecC model of the MP3 Decoder
   - Setup and unpack source code
     - **`source /opt/sce-20100908/bin/setup.csh`**
     - **`tar xvzpf ~/EECS222C/mad_SpecC.tar.gz`**
     - **`cd mad_SpecC`**
     - **`ls`**
   - Compile the SpecC model
     - **`make clean`**
     - **`make`**
   - Execute the SpecC model
     - **`testbench testStream/spot1.mp3 spot1.pcm`**
     - **`diff spot1.pcm ../mad_C/spot1.pcm`**
   - Use decoded PCM files from reference C code as “golden” reference
     - **`cp ../mad_C/spot1.pcm reference/`**
     - **`cp ../mad_C/spot1_3K.pcm reference/`**
     - **`cp ../mad_C/classic1.pcm reference/`**
   - Simulate the SpecC model (using the provided **`Makefile`**)
     - **`make test`** (or: **`make test1`** to run only the first test)

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2. Analyze the specification model of the MP3 Decoder
   - Setup (as in step 2)
     - **`cd mad_SpecC`**
   - Generate a top-level SIR design file
     - **`make`**
     - **`ls –l testbench.sir`**
   - View some statistics of the model
     - **`sir_stats testbench.sir`**
     - **`sir_stats -a testbench.sir`**
   - Generate a hierarchy tree of the model
     - **`sir_tree -blt testbench.sir`**
   - Generate a “clean” single-file SpecC model
     - **`scc testbench –sir2sc –vv –sn –sl –psi –o testbench_gen.sc`**
     - Or simply: **`make testbench_gen.sc`**
     - **`vi testbench_gen.sc`**

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3. Is there any parallelism specified in the model?
   If so, where?
   - Find all behaviors that execute in parallel
   - For each parallel behavior, note
     - the name of the parent behavior
     - the names of the parallel child behaviors

- Deliverables
  - Names of concurrent parent behaviors
  - Names of parallel executing child behaviors

- Due
  - by Friday, Oct 22, 2010, at noon
  - by email to **`doemer@uci.edu`**
    with subject “EECS222C HW3”