

Portland State University  
ECE 587/687

## Running the SimpleScalar Simulator

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## Documentation

- Tutorial (hacker's guide)
- Technical report
- Simulator source files are well documented
- Tutorial and technical report are available through the class webpage

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## Simulator Download Instructions

- Download the following file:
  - ◆ <http://www.cecs.pdx.edu/~alaa/ece587/for-psu-only/ss.tar.gz>
- You need to enter your user name and password
  - ◆ Username: Your last name (in lowercase)
  - ◆ Password: First six digits of your PSU ID
- Save the file to your Solaris home directory
- From your home directory, unpack the file:
  - ◆ `gunzip ss.tar.gz`
  - ◆ `tar xvf ss.tar`
- The file creates a new directory "simulator" in your home directory

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## Simulator Directories

- Simulator models
  - ◆ `simulator/ss3/`
- Benchmarks:
  - ◆ SPEC95 binaries: `simulator/bench/big/`
  - ◆ SPEC95 inputs: `simulator/input/ref`
  - ◆ SPEC95 outputs: `simulator/output/ref`
  - ◆ Small tests: `simulator/tests`
    - Small programs for you to read and understand quickly
    - Source files also available in the same directory

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## Compiling and Running the Simulator

- Compile SimpleScalar:
  - ◆ From a Solaris machine (e.g., `nemo.ece.pdx.edu`):
    - `cd simulator/ss3/`
    - `make`
- Run benchmarks:
  - ◆ `cd $HOME_DIR/simulator`
  - ◆ Edit the `$exp_dir` line in `Run.pl` to point to the simulator directory
  - ◆ `./Run.pl -db bench.db -dir results/gcc1 -benchmark gcc -sim $HOME_dir/simulator/ss3/sim-outorder -args "-fastfwd 100000000 -max:inst 1000000" >& results/gcc1.out`
- Benchmarks include: `gcc`, `li`, `m88ksim`, `perl`, `vortex`, `compress`, and `jpeg`
- Example of running a small test
  - ◆ `$HOME_DIR/simulator/ss3/sim-outorder $HOME_DIR/simulator/tests/bubblesort`

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