SimpleScalar Lab Setup

CMPEN431 Fall 2015

Installation of SimpleScalar

SimpleScalar 3.0 is already installed on the linux x86-64 machines in CSE Lab 218, so you don't need to install it yourself. Our SimpleScalar is compiled for a PISA little-endian target ISA. All of our benchmarks are compiled for this ISA as well.

To run simulations with SimpleScalar, you need to do following steps to setup the correct path:

1) log on into one of the Linux machines in Lab 218. The machine names are of following format: p218instXX, where XX is a number for the machine id, for example, p218inst09.

2) Go to your home directory with this command:

`>cd`

3) open your `.cshrc` file (you can use any editor, such as vi etc.) and add following line:

`setenv SIMPLESIM /home/software/simplesim`

then run the command:

`>source .cshrc`

4) to verify, run

`>echo $SIMPLESIM`

the return should be `/home/software/simplesim`. Now you can start running benchmarks

Downloading and Running Benchmarks

Currently, 4 integer C benchmarks and 2 FP benchmarks are available for running simulations. They are:

`bzip2`(INT) `hmmer`(INT) `mcf`(INT) `sjeng` (INT) `milc` (FP) `equake`(FP)

These benchmarks need to be downloaded from `/home/software/simplesim/ss-benchmark`

To download and set up the benchmark, follow these steps:

`>mkdir simplescalar`
`>cd simplescalar`
`>cp -r $SIMPLESIM/ss-benchmark .` (the final period is important, don't forget it)
`>cd ss-benchmark`

To run the individual benchmarks follow the steps below.

Bzip2:
`>cd bzip2`

```
> $SIMPLESIM/simplesim-3.0/sim-outorder -config tmp.cfg
bzip2_base.i386-m32-gcc42-nn dryer.jpg
```

mcf:
```
>cd mcf
>$SIMPLESIM/simplesim-3.0/sim-outorder -config tmp.cfg
mcf_base.i386-m32-gcc42-nn inp.in
```

Hmmer:
```
>cd hmmer
> $SIMPLESIM/simplesim-3.0/sim-outorder -config tmp.cfg
hmmer_base.i386-m32-gcc42-nn bombesin.hmm
```

Sjeng:
```
>cd sjeng
> $SIMPLESIM/simplesim-3.0/sim-outorder -config tmp.cfg
sjeng_base.i386-m32-gcc42-nn test.txt
```

milc
```
>cd milc
> $SIMPLESIM/simplesim-3.0/sim-outorder -config tmp.cfg
milc_base.i386-m32-gcc42-nn < su3imp.in
```

equake
```
>cd equake
>$SIMPLESIM/simplesim-3.0/sim-outorder -config tmp.cfg
equake_base.pisa_little < inp.in > inp.out
```