Superscaler.c vs five\_stages.c Test-Cases

# The result of running the short traces that you used in task 2 on both five\_stage.c and superscalar.c with trace\_view\_on = 1

## test-chunks-alu-first.tr

### five\_stages.c

\*\* opening file test-chunks-alu-first.tr

[cycle 5] RTYPE: (PC: 0)(sReg\_a: 1)(sReg\_b: 10)(dReg: 11)

[cycle 6] RTYPE: (PC: 1)(sReg\_a: 7)(sReg\_b: 8)(dReg: 9)

[cycle 7] RTYPE: (PC: 2)(sReg\_a: 8)(sReg\_b: 5)(dReg: 15)

[cycle 8] RTYPE: (PC: 3)(sReg\_a: 20)(sReg\_b: 14)(dReg: 7)

[cycle 9] STORE: (PC: 4)(sReg\_a: 7)(sReg\_b: 14)(addr: 50000)

[cycle 10] STORE: (PC: 5)(sReg\_a: 1)(sReg\_b: 20)(addr: 60000)

[cycle 11] LOAD: (PC: 6)(sReg\_a: 1)(dReg: 3)(addr: 70000)

[cycle 12] LOAD: (PC: 7)(sReg\_a: 7)(dReg: 14)(addr: 80000)

+ Simulation terminates at cycle : 12

### Superscalar.c

\*\* opening file test-chunks-alu-first.tr

[cycle 5] RTYPE: (PC: 0)(sReg\_a: 1)(sReg\_b: 10)(dReg: 11)

[cycle 5] NOP:

[cycle 6] RTYPE: (PC: 2)(sReg\_a: 8)(sReg\_b: 5)(dReg: 15)

[cycle 6] NOP:

[cycle 7] STORE: (PC: 4)(sReg\_a: 7)(sReg\_b: 14)(addr: 50000)

[cycle 7] NOP:

[cycle 8] LOAD: (PC: 6)(sReg\_a: 1)(dReg: 3)(addr: 70000)

[cycle 8] NOP:

+ Simulation terminates at cycle : 8

## test-chunks-lwsw-first.tr

### five\_stages.c

\*\* opening file test-chunks-lwsw-first.tr

[cycle 5] STORE: (PC: 0)(sReg\_a: 7)(sReg\_b: 14)(addr: 10000)

[cycle 6] STORE: (PC: 1)(sReg\_a: 1)(sReg\_b: 8)(addr: 20000)

[cycle 7] LOAD: (PC: 2)(sReg\_a: 1)(dReg: 23)(addr: 30000)

[cycle 8] LOAD: (PC: 3)(sReg\_a: 7)(dReg: 8)(addr: 40000)

[cycle 9] RTYPE: (PC: 4)(sReg\_a: 3)(sReg\_b: 7)(dReg: 1)

[cycle 10] RTYPE: (PC: 5)(sReg\_a: 15)(sReg\_b: 11)(dReg: 7)

[cycle 11] RTYPE: (PC: 6)(sReg\_a: 11)(sReg\_b: 17)(dReg: 11)

[cycle 12] RTYPE: (PC: 7)(sReg\_a: 0)(sReg\_b: 1)(dReg: 2)

+ Simulation terminates at cycle : 12

### Superscalar.c

\*\* opening file test-chunks-lwsw-first.tr

[cycle 5] STORE: (PC: 0)(sReg\_a: 7)(sReg\_b: 14)(addr: 10000)

[cycle 5] NOP:

[cycle 6] LOAD: (PC: 2)(sReg\_a: 1)(dReg: 23)(addr: 30000)

[cycle 6] NOP:

[cycle 7] RTYPE: (PC: 4)(sReg\_a: 3)(sReg\_b: 7)(dReg: 1)

[cycle 7] NOP:

[cycle 8] RTYPE: (PC: 6)(sReg\_a: 11)(sReg\_b: 17)(dReg: 11)

[cycle 8] NOP:

+ Simulation terminates at cycle : 8

## test-all-alus.tr

### five\_stages.c

\*\* opening file test-all-alus.tr

[cycle 5] RTYPE: (PC: 0)(sReg\_a: 0)(sReg\_b: 1)(dReg: 2)

[cycle 6] RTYPE: (PC: 1)(sReg\_a: 8)(sReg\_b: 4)(dReg: 6)

[cycle 7] RTYPE: (PC: 2)(sReg\_a: 6)(sReg\_b: 5)(dReg: 0)

[cycle 8] RTYPE: (PC: 3)(sReg\_a: 5)(sReg\_b: 5)(dReg: 7)

[cycle 9] RTYPE: (PC: 4)(sReg\_a: 6)(sReg\_b: 6)(dReg: 6)

[cycle 10] RTYPE: (PC: 5)(sReg\_a: 1)(sReg\_b: 7)(dReg: 9)

[cycle 11] RTYPE: (PC: 6)(sReg\_a: 5)(sReg\_b: 17)(dReg: 18)

[cycle 12] RTYPE: (PC: 7)(sReg\_a: 14)(sReg\_b: 12)(dReg: 7)

+ Simulation terminates at cycle : 12

### Superscalar.c

\*\* opening file test-all-alus.tr

[cycle 5] RTYPE: (PC: 0)(sReg\_a: 0)(sReg\_b: 1)(dReg: 2)

[cycle 5] NOP:

[cycle 6] RTYPE: (PC: 2)(sReg\_a: 6)(sReg\_b: 5)(dReg: 0)

[cycle 6] NOP:

[cycle 7] RTYPE: (PC: 4)(sReg\_a: 6)(sReg\_b: 6)(dReg: 6)

[cycle 7] NOP:

[cycle 8] RTYPE: (PC: 6)(sReg\_a: 5)(sReg\_b: 17)(dReg: 18)

[cycle 8] NOP:

+ Simulation terminates at cycle : 8

## test-normal-operation.tr

### five\_stages.c

\*\* opening file test-normal-operation.tr

[cycle 5] RTYPE: (PC: 0)(sReg\_a: 8)(sReg\_b: 9)(dReg: 10)

[cycle 6] LOAD: (PC: 1)(sReg\_a: 89)(dReg: 233)(addr: 0)

[cycle 7] RTYPE: (PC: 2)(sReg\_a: 8)(sReg\_b: 9)(dReg: 0)

[cycle 8] STORE: (PC: 3)(sReg\_a: 8)(sReg\_b: 9)(addr: 1003)

[cycle 9] RTYPE: (PC: 4)(sReg\_a: 5)(sReg\_b: 6)(dReg: 7)

[cycle 10] LOAD: (PC: 5)(sReg\_a: 5)(dReg: 3)(addr: 1005)

[cycle 11] RTYPE: (PC: 6)(sReg\_a: 7)(sReg\_b: 4)(dReg: 9)

[cycle 12] STORE: (PC: 7)(sReg\_a: 3)(sReg\_b: 2)(addr: 1007)

+ Simulation terminates at cycle : 12

### Superscalar.c

\*\* opening file test-normal-operation.tr

[cycle 5] RTYPE: (PC: 0)(sReg\_a: 8)(sReg\_b: 9)(dReg: 10)

[cycle 5] NOP:

[cycle 6] RTYPE: (PC: 2)(sReg\_a: 8)(sReg\_b: 9)(dReg: 0)

[cycle 6] NOP:

[cycle 7] RTYPE: (PC: 4)(sReg\_a: 5)(sReg\_b: 6)(dReg: 7)

[cycle 7] NOP:

[cycle 8] RTYPE: (PC: 6)(sReg\_a: 7)(sReg\_b: 4)(dReg: 9)

[cycle 8] NOP:

+ Simulation terminates at cycle : 8

## customtrace1.tr

### five\_stages.c

\*\* opening file customtrace1.tr

[cycle 5] LOAD: (PC: 2097312)(sReg\_a: 29)(dReg: 16)(addr: 2147450880)

[cycle 6] RTYPE: (PC: 2097316)(sReg\_a: 255)(sReg\_b: 0)(dReg: 28)

[cycle 7] RTYPE: (PC: 2097320)(sReg\_a: 28)(sReg\_b: 0)(dReg: 28)

[cycle 8] STORE: (PC: 2097324)(sReg\_a: 28)(sReg\_b: 18)(addr: 268454020)

[cycle 9] LOAD: (PC: 2097328)(sReg\_a: 30)(dReg: 12)(addr: 2147450887)

[cycle 10] BRANCH: (PC: 2097332)(sReg\_a: 16)(sReg\_b: 0)(addr: 21497352)

[cycle 11] RTYPE: (PC: 536918058)(sReg\_a: 30)(sReg\_b: 13)(dReg: 10)

[cycle 12] NOP:

[cycle 13] NOP:

[cycle 14] NOP:

+ Simulation terminates at cycle : 14

### Superscalar.c

\*\* opening file customtrace1.tr

[cycle 5] LOAD: (PC: 2097312)(sReg\_a: 29)(dReg: 16)(addr: 2147450880)

[cycle 5] NOP:

[cycle 6] RTYPE: (PC: 2097320)(sReg\_a: 28)(sReg\_b: 0)(dReg: 28)

[cycle 6] NOP:

[cycle 7] LOAD: (PC: 2097328)(sReg\_a: 30)(dReg: 12)(addr: 2147450887)

[cycle 7] NOP:

[cycle 8] RTYPE: (PC: 536918058)(sReg\_a: 30)(sReg\_b: 13)(dReg: 10)

[cycle 8] NOP:

[cycle 9] NOP:

[cycle 9] NOP:

+ Simulation terminates at cycle : 9

## test-all-lwsws.tr

### five\_stages.c

\*\* opening file test-all-lwsws.tr

[cycle 5] STORE: (PC: 0)(sReg\_a: 17)(sReg\_b: 14)(addr: 10000)

[cycle 6] STORE: (PC: 1)(sReg\_a: 18)(sReg\_b: 11)(addr: 20000)

[cycle 7] LOAD: (PC: 2)(sReg\_a: 17)(dReg: 0)(addr: 30000)

[cycle 8] LOAD: (PC: 3)(sReg\_a: 18)(dReg: 13)(addr: 40000)

[cycle 9] STORE: (PC: 4)(sReg\_a: 5)(sReg\_b: 4)(addr: 50000)

[cycle 10] STORE: (PC: 5)(sReg\_a: 3)(sReg\_b: 7)(addr: 60000)

[cycle 11] LOAD: (PC: 6)(sReg\_a: 5)(dReg: 8)(addr: 70000)

[cycle 12] LOAD: (PC: 7)(sReg\_a: 3)(dReg: 21)(addr: 80000)

+ Simulation terminates at cycle : 12

### Superscalar.c

\*\* opening file test-all-lwsws.tr

[cycle 5] STORE: (PC: 0)(sReg\_a: 17)(sReg\_b: 14)(addr: 10000)

[cycle 5] NOP:

[cycle 6] LOAD: (PC: 2)(sReg\_a: 17)(dReg: 0)(addr: 30000)

[cycle 6] NOP:

[cycle 7] STORE: (PC: 4)(sReg\_a: 5)(sReg\_b: 4)(addr: 50000)

[cycle 7] NOP:

[cycle 8] LOAD: (PC: 6)(sReg\_a: 5)(dReg: 8)(addr: 70000)

[cycle 8] NOP:

+ Simulation terminates at cycle : 8

# The result of running your simulators with *trace\_view\_on* = 0 for each short and long trace file.

## Short-Traces

### Sample.tr

#### Five\_stage.c

\*\* opening file /afs/cs.pitt.edu/courses/1541/short\_traces/sample.tr

+ Simulation terminates at cycle : 1004

#### Superscalar.c

\*\* opening file /afs/cs.pitt.edu/courses/1541/short\_traces/sample.tr

+ Simulation terminates at cycle : 504

### Sample1.tr

#### Five\_stage.c

\*\* opening file /afs/cs.pitt.edu/courses/1541/short\_traces/sample1.tr

+ Simulation terminates at cycle : 1000004

#### Superscalar.c

\*\* opening file /afs/cs.pitt.edu/courses/1541/short\_traces/sample1.tr

+ Simulation terminates at cycle : 500004

### Sample2.tr

#### Five\_stage.c

\*\* opening file /afs/cs.pitt.edu/courses/1541/short\_traces/sample2.tr

+ Simulation terminates at cycle : 1000004

#### Superscaler.c

\*\* opening file /afs/cs.pitt.edu/courses/1541/short\_traces/sample2.tr

+ Simulation terminates at cycle : 500004

### Sample3.tr

#### Five\_stages.c

\*\* opening file /afs/cs.pitt.edu/courses/1541/short\_traces/sample3.tr

+ Simulation terminates at cycle : 1000004

#### Superscalar.c

\*\* opening file /afs/cs.pitt.edu/courses/1541/short\_traces/sample3.tr

+ Simulation terminates at cycle : 500004

### Sample4.tr

#### Five\_stages.c

\*\* opening file /afs/cs.pitt.edu/courses/1541/short\_traces/sample4.tr

+ Simulation terminates at cycle : 3000004

#### Superscalar.c

\*\* opening file /afs/cs.pitt.edu/courses/1541/short\_traces/sample4.tr

+ Simulation terminates at cycle : 1500004

## Long Traces

### Sample\_large1.tr

#### Five\_stages.c

\*\* opening file /afs/cs.pitt.edu/courses/1541/long\_traces/sample\_large1.tr

+ Simulation terminates at cycle : 93672793

#### Superscalar.c

\*\* opening file /afs/cs.pitt.edu/courses/1541/long\_traces/sample\_large1.tr

+ Simulation terminates at cycle : 46836399

### Sample\_large2.tr

#### Five\_stages.c

\*\* opening file /afs/cs.pitt.edu/courses/1541/long\_traces/sample\_large2.tr

+ Simulation terminates at cycle : 93672793

#### Superscalar.c

\*\* opening file /afs/cs.pitt.edu/courses/1541/long\_traces/sample\_large2.tr

+ Simulation terminates at cycle : 46836399