

# 10420 CS410001 – Computer Architecture 2016

## Appendix C-1 - Output Samples for Project 1

Please refer to the specified output format to generate your output report. Since we are using a script to automatically check your results, if the format does not match with our golden results, yours will be judged as incorrect and get no points. You are encouraged to double check your results on the open test cases using the released golden simulator.

### Format:

cycle (cycle index in decimal representation)

\$00: 0x(content in hexadecimal digits) # note that there is a space between “:” and “0x”

\$01: 0x(content in hexadecimal digits)

...

... (other registers’ contents)

...

\$31: 0x(content in hexadecimal digits)

PC: 0x(content in hexadecimal digits)

(2 space lines here)

Note that comments are here for your understanding; they should not appear in your output files. If you have any doubts or questions, please check with TA’s.

With the specified format, let’s walk through an output example. Be noted that you should dump out the contents of registers **before** executing the instruction at each checkpoint.

The following is the content of snapshot.rpt after executing the sample inputs in *Appendix B*. To save space, we show the outputs in three columns; nevertheless, you should generate a one-column report as specified in the “*Format*” section.

### snapshot.rpt:

cycle 0	\$10: 0x00000000	\$21: 0x00000000
\$00: 0x00000000	\$11: 0x00000000	\$22: 0x00000000
\$01: 0x00000000	\$12: 0x00000000	\$23: 0x00000000
\$02: 0x00000000	\$13: 0x00000000	\$24: 0x00000000
\$03: 0x00000000	\$14: 0x00000000	\$25: 0x00000000
\$04: 0x00000000	\$15: 0x00000000	\$26: 0x00000000
\$05: 0x00000000	\$16: 0x00000000	\$27: 0x00000000
\$06: 0x00000000	\$17: 0x00000000	\$28: 0x00000000
\$07: 0x00000000	\$18: 0x00000000	\$29: 0x00000400
\$08: 0x00000000	\$19: 0x00000000	\$30: 0x00000000
\$09: 0x00000000	\$20: 0x00000000	\$31: 0x00000000

# 10420 CS410001 – Computer Architecture 2016

PC: 0x00000000	\$00: 0x00000000	\$04: 0x00000000
	\$01: 0x00000000	\$05: 0x00000000
	\$02: 0x00000000	\$06: 0x00000000
cycle 1	\$03: 0x00000000	\$07: 0x00000000
\$00: 0x00000000	\$04: 0x00000000	\$08: 0x00000000
\$01: 0x00000000	\$05: 0x00000000	\$09: 0x00000000
\$02: 0x00000000	\$06: 0x00000000	\$10: 0x00000001
\$03: 0x00000000	\$07: 0x00000000	\$11: 0x00000000
\$04: 0x00000000	\$08: 0x00000000	\$12: 0x00000000
\$05: 0x00000000	\$09: 0x00000000	\$13: 0x00000000
\$06: 0x00000000	\$10: 0x00000000	\$14: 0x00000000
\$07: 0x00000000	\$11: 0x00000000	\$15: 0x00000000
\$08: 0x00000000	\$12: 0x00000000	\$16: 0x00000000
\$09: 0x00000000	\$13: 0x00000000	\$17: 0x00000000
\$10: 0x00000000	\$14: 0x00000000	\$18: 0x00000000
\$11: 0x00000000	\$15: 0x00000000	\$19: 0x00000000
\$12: 0x00000000	\$16: 0x00000000	\$20: 0x00000000
\$13: 0x00000000	\$17: 0x00000000	\$21: 0x00000000
\$14: 0x00000000	\$18: 0x00000000	\$22: 0x00000000
\$15: 0x00000000	\$19: 0x00000000	\$23: 0x00000000
\$16: 0x00000000	\$20: 0x00000000	\$24: 0x00000000
\$17: 0x00000000	\$21: 0x00000000	\$25: 0x00000000
\$18: 0x00000000	\$22: 0x00000000	\$26: 0x00000000
\$19: 0x00000000	\$23: 0x00000000	\$27: 0x00000000
\$20: 0x00000000	\$24: 0x00000000	\$28: 0x00000000
\$21: 0x00000000	\$25: 0x00000000	\$29: 0x00000400
\$22: 0x00000000	\$26: 0x00000000	\$30: 0x00000000
\$23: 0x00000000	\$27: 0x00000000	\$31: 0x00000000
\$24: 0x00000000	\$28: 0x00000000	PC: 0x0000000C
\$25: 0x00000000	\$29: 0x00000400	
\$26: 0x00000000	\$30: 0x00000000	
\$27: 0x00000000	\$31: 0x00000000	cycle 4
\$28: 0x00000000	PC: 0x00000008	\$00: 0x00000000
\$29: 0x00000400		\$01: 0x00000000
\$30: 0x00000000		\$02: 0x00000000
\$31: 0x00000000	cycle 3	\$03: 0x00000000
PC: 0x00000004	\$00: 0x00000000	\$04: 0x00000000
	\$01: 0x00000000	\$05: 0x00000000
	\$02: 0x00000000	\$06: 0x00000000
cycle 2	\$03: 0x00000000	\$07: 0x00000000

# 10420 CS410001 – Computer Architecture 2016

\$08: 0x00000000	\$12: 0x00000000	\$16: 0x00000000
\$09: 0x00000000	\$13: 0x00000000	\$17: 0x00000000
\$10: 0x00000001	\$14: 0x00000000	\$18: 0x00000000
\$11: 0x00000000	\$15: 0x00000000	\$19: 0x00000000
\$12: 0x00000000	\$16: 0x00000000	\$20: 0x00000000
\$13: 0x00000000	\$17: 0x00000000	\$21: 0x00000000
\$14: 0x00000000	\$18: 0x00000000	\$22: 0x00000000
\$15: 0x00000000	\$19: 0x00000000	\$23: 0x00000000
\$16: 0x00000000	\$20: 0x00000000	\$24: 0x00000000
\$17: 0x00000000	\$21: 0x00000000	\$25: 0x00000000
\$18: 0x00000000	\$22: 0x00000000	\$26: 0x00000000
\$19: 0x00000000	\$23: 0x00000000	\$27: 0x00000000
\$20: 0x00000000	\$24: 0x00000000	\$28: 0x00000000
\$21: 0x00000000	\$25: 0x00000000	\$29: 0x00000400
\$22: 0x00000000	\$26: 0x00000000	\$30: 0x00000000
\$23: 0x00000000	\$27: 0x00000000	\$31: 0x00000000
\$24: 0x00000000	\$28: 0x00000000	PC: 0x00000018
\$25: 0x00000000	\$29: 0x00000400	
\$26: 0x00000000	\$30: 0x00000000	
\$27: 0x00000000	\$31: 0x00000000	cycle 7
\$28: 0x00000000	PC: 0x00000014	\$00: 0x00000000
\$29: 0x00000400		\$01: 0x00000000
\$30: 0x00000000		\$02: 0x00000000
\$31: 0x00000000	cycle 6	\$03: 0x00000000
PC: 0x00000010	\$00: 0x00000000	\$04: 0x00000000
	\$01: 0x00000000	\$05: 0x00000000
	\$02: 0x00000000	\$06: 0x00000000
cycle 5	\$03: 0x00000000	\$07: 0x00000000
\$00: 0x00000000	\$04: 0x00000000	\$08: 0x00000000
\$01: 0x00000000	\$05: 0x00000000	\$09: 0x00000001
\$02: 0x00000000	\$06: 0x00000000	\$10: 0x00000001
\$03: 0x00000000	\$07: 0x00000000	\$11: 0x00000000
\$04: 0x00000000	\$08: 0x00000000	\$12: 0x00000000
\$05: 0x00000000	\$09: 0x00000001	\$13: 0x00000000
\$06: 0x00000000	\$10: 0x00000001	\$14: 0x00000000
\$07: 0x00000000	\$11: 0x00000000	\$15: 0x00000000
\$08: 0x00000000	\$12: 0x00000000	\$16: 0x00000000
\$09: 0x00000000	\$13: 0x00000000	\$17: 0x00000000
\$10: 0x00000001	\$14: 0x00000000	\$18: 0x00000000
\$11: 0x00000000	\$15: 0x00000000	\$19: 0x00000000

# 10420 CS410001 – Computer Architecture 2016

\$20: 0x00000000	\$24: 0x00000000	\$28: 0x00000000
\$21: 0x00000000	\$25: 0x00000000	\$29: 0x00000400
\$22: 0x00000000	\$26: 0x00000000	\$30: 0x00000000
\$23: 0x00000000	\$27: 0x00000000	\$31: 0x00000000
\$24: 0x00000000	\$28: 0x00000000	PC: 0x00000010
\$25: 0x00000000	\$29: 0x00000400	
\$26: 0x00000000	\$30: 0x00000000	
\$27: 0x00000000	\$31: 0x00000000	cycle 10
\$28: 0x00000000	PC: 0x0000000C	\$00: 0x00000000
\$29: 0x00000400		\$01: 0x00000000
\$30: 0x00000000		\$02: 0x00000000
\$31: 0x00000000	cycle 9	\$03: 0x00000000
PC: 0x00000008	\$00: 0x00000000	\$04: 0x00000000
	\$01: 0x00000000	\$05: 0x00000000
	\$02: 0x00000000	\$06: 0x00000000
cycle 8	\$03: 0x00000000	\$07: 0x00000000
\$00: 0x00000000	\$04: 0x00000000	\$08: 0x00000001
\$01: 0x00000000	\$05: 0x00000000	\$09: 0x00000001
\$02: 0x00000000	\$06: 0x00000000	\$10: 0x00000001
\$03: 0x00000000	\$07: 0x00000000	\$11: 0x00000000
\$04: 0x00000000	\$08: 0x00000000	\$12: 0x00000000
\$05: 0x00000000	\$09: 0x00000001	\$13: 0x00000000
\$06: 0x00000000	\$10: 0x00000001	\$14: 0x00000000
\$07: 0x00000000	\$11: 0x00000000	\$15: 0x00000000
\$08: 0x00000000	\$12: 0x00000000	\$16: 0x00000000
\$09: 0x00000001	\$13: 0x00000000	\$17: 0x00000000
\$10: 0x00000001	\$14: 0x00000000	\$18: 0x00000000
\$11: 0x00000000	\$15: 0x00000000	\$19: 0x00000000
\$12: 0x00000000	\$16: 0x00000000	\$20: 0x00000000
\$13: 0x00000000	\$17: 0x00000000	\$21: 0x00000000
\$14: 0x00000000	\$18: 0x00000000	\$22: 0x00000000
\$15: 0x00000000	\$19: 0x00000000	\$23: 0x00000000
\$16: 0x00000000	\$20: 0x00000000	\$24: 0x00000000
\$17: 0x00000000	\$21: 0x00000000	\$25: 0x00000000
\$18: 0x00000000	\$22: 0x00000000	\$26: 0x00000000
\$19: 0x00000000	\$23: 0x00000000	\$27: 0x00000000
\$20: 0x00000000	\$24: 0x00000000	\$28: 0x00000000
\$21: 0x00000000	\$25: 0x00000000	\$29: 0x00000400
\$22: 0x00000000	\$26: 0x00000000	\$30: 0x00000000
\$23: 0x00000000	\$27: 0x00000000	\$31: 0x00000000

# 10420 CS410001 – Computer Architecture 2016

PC: 0x00000014	\$00: 0x00000000	\$04: 0x00000000
	\$01: 0x00000000	\$05: 0x00000000
	\$02: 0x00000000	\$06: 0x00000000
cycle 11	\$03: 0x00000000	\$07: 0x00000000
\$00: 0x00000000	\$04: 0x00000000	\$08: 0x00000001
\$01: 0x00000000	\$05: 0x00000000	\$09: 0x00000002
\$02: 0x00000000	\$06: 0x00000000	\$10: 0x00000001
\$03: 0x00000000	\$07: 0x00000000	\$11: 0x00000000
\$04: 0x00000000	\$08: 0x00000001	\$12: 0x00000000
\$05: 0x00000000	\$09: 0x00000002	\$13: 0x00000000
\$06: 0x00000000	\$10: 0x00000001	\$14: 0x00000000
\$07: 0x00000000	\$11: 0x00000000	\$15: 0x00000000
\$08: 0x00000001	\$12: 0x00000000	\$16: 0x00000000
\$09: 0x00000002	\$13: 0x00000000	\$17: 0x00000000
\$10: 0x00000001	\$14: 0x00000000	\$18: 0x00000000
\$11: 0x00000000	\$15: 0x00000000	\$19: 0x00000000
\$12: 0x00000000	\$16: 0x00000000	\$20: 0x00000000
\$13: 0x00000000	\$17: 0x00000000	\$21: 0x00000000
\$14: 0x00000000	\$18: 0x00000000	\$22: 0x00000000
\$15: 0x00000000	\$19: 0x00000000	\$23: 0x00000000
\$16: 0x00000000	\$20: 0x00000000	\$24: 0x00000000
\$17: 0x00000000	\$21: 0x00000000	\$25: 0x00000000
\$18: 0x00000000	\$22: 0x00000000	\$26: 0x00000000
\$19: 0x00000000	\$23: 0x00000000	\$27: 0x00000000
\$20: 0x00000000	\$24: 0x00000000	\$28: 0x00000000
\$21: 0x00000000	\$25: 0x00000000	\$29: 0x00000400
\$22: 0x00000000	\$26: 0x00000000	\$30: 0x00000000
\$23: 0x00000000	\$27: 0x00000000	\$31: 0x00000000
\$24: 0x00000000	\$28: 0x00000000	PC: 0x0000000C
\$25: 0x00000000	\$29: 0x00000400	
\$26: 0x00000000	\$30: 0x00000000	
\$27: 0x00000000	\$31: 0x00000000	cycle 14
\$28: 0x00000000	PC: 0x00000008	\$00: 0x00000000
\$29: 0x00000400		\$01: 0x00000000
\$30: 0x00000000		\$02: 0x00000000
\$31: 0x00000000	cycle 13	\$03: 0x00000000
PC: 0x00000018	\$00: 0x00000000	\$04: 0x00000000
	\$01: 0x00000000	\$05: 0x00000000
	\$02: 0x00000000	\$06: 0x00000000
cycle 12	\$03: 0x00000000	\$07: 0x00000000

# 10420 CS410001 – Computer Architecture 2016

\$08: 0x00000001	\$12: 0x00000000	\$16: 0x00000000
\$09: 0x00000002	\$13: 0x00000000	\$17: 0x00000000
\$10: 0x00000001	\$14: 0x00000000	\$18: 0x00000000
\$11: 0x00000000	\$15: 0x00000000	\$19: 0x00000000
\$12: 0x00000000	\$16: 0x00000000	\$20: 0x00000000
\$13: 0x00000000	\$17: 0x00000000	\$21: 0x00000000
\$14: 0x00000000	\$18: 0x00000000	\$22: 0x00000000
\$15: 0x00000000	\$19: 0x00000000	\$23: 0x00000000
\$16: 0x00000000	\$20: 0x00000000	\$24: 0x00000000
\$17: 0x00000000	\$21: 0x00000000	\$25: 0x00000000
\$18: 0x00000000	\$22: 0x00000000	\$26: 0x00000000
\$19: 0x00000000	\$23: 0x00000000	\$27: 0x00000000
\$20: 0x00000000	\$24: 0x00000000	\$28: 0x00000000
\$21: 0x00000000	\$25: 0x00000000	\$29: 0x00000400
\$22: 0x00000000	\$26: 0x00000000	\$30: 0x00000000
\$23: 0x00000000	\$27: 0x00000000	\$31: 0x00000000
\$24: 0x00000000	\$28: 0x00000000	PC: 0x00000018
\$25: 0x00000000	\$29: 0x00000400	
\$26: 0x00000000	\$30: 0x00000000	
\$27: 0x00000000	\$31: 0x00000000	cycle 17
\$28: 0x00000000	PC: 0x00000014	\$00: 0x00000000
\$29: 0x00000400		\$01: 0x00000000
\$30: 0x00000000		\$02: 0x00000000
\$31: 0x00000000	cycle 16	\$03: 0x00000000
PC: 0x00000010	\$00: 0x00000000	\$04: 0x00000000
	\$01: 0x00000000	\$05: 0x00000000
	\$02: 0x00000000	\$06: 0x00000000
cycle 15	\$03: 0x00000000	\$07: 0x00000000
\$00: 0x00000000	\$04: 0x00000000	\$08: 0x00000003
\$01: 0x00000000	\$05: 0x00000000	\$09: 0x00000003
\$02: 0x00000000	\$06: 0x00000000	\$10: 0x00000001
\$03: 0x00000000	\$07: 0x00000000	\$11: 0x00000000
\$04: 0x00000000	\$08: 0x00000003	\$12: 0x00000000
\$05: 0x00000000	\$09: 0x00000003	\$13: 0x00000000
\$06: 0x00000000	\$10: 0x00000001	\$14: 0x00000000
\$07: 0x00000000	\$11: 0x00000000	\$15: 0x00000000
\$08: 0x00000003	\$12: 0x00000000	\$16: 0x00000000
\$09: 0x00000002	\$13: 0x00000000	\$17: 0x00000000
\$10: 0x00000001	\$14: 0x00000000	\$18: 0x00000000
\$11: 0x00000000	\$15: 0x00000000	\$19: 0x00000000

# 10420 CS410001 – Computer Architecture 2016

\$20: 0x00000000	\$24: 0x00000000	\$28: 0x00000000
\$21: 0x00000000	\$25: 0x00000000	\$29: 0x00000400
\$22: 0x00000000	\$26: 0x00000000	\$30: 0x00000000
\$23: 0x00000000	\$27: 0x00000000	\$31: 0x00000000
\$24: 0x00000000	\$28: 0x00000000	PC: 0x0000001C
\$25: 0x00000000	\$29: 0x00000400	
\$26: 0x00000000	\$30: 0x00000000	
\$27: 0x00000000	\$31: 0x00000000	cycle 20
\$28: 0x00000000	PC: 0x0000000C	\$00: 0x00000000
\$29: 0x00000400		\$01: 0x00000000
\$30: 0x00000000		\$02: 0x00000000
\$31: 0x00000000	cycle 19	\$03: 0x00000000
PC: 0x00000008	\$00: 0x00000000	\$04: 0x00000000
	\$01: 0x00000000	\$05: 0x00000000
	\$02: 0x00000000	\$06: 0x00000000
cycle 18	\$03: 0x00000000	\$07: 0x00000000
\$00: 0x00000000	\$04: 0x00000000	\$08: 0x00000003
\$01: 0x00000000	\$05: 0x00000000	\$09: 0x00000003
\$02: 0x00000000	\$06: 0x00000000	\$10: 0x00000000
\$03: 0x00000000	\$07: 0x00000000	\$11: 0x00000000
\$04: 0x00000000	\$08: 0x00000003	\$12: 0x00000000
\$05: 0x00000000	\$09: 0x00000003	\$13: 0x00000000
\$06: 0x00000000	\$10: 0x00000000	\$14: 0x00000000
\$07: 0x00000000	\$11: 0x00000000	\$15: 0x00000000
\$08: 0x00000003	\$12: 0x00000000	\$16: 0x00000000
\$09: 0x00000003	\$13: 0x00000000	\$17: 0x00000000
\$10: 0x00000000	\$14: 0x00000000	\$18: 0x00000000
\$11: 0x00000000	\$15: 0x00000000	\$19: 0x00000000
\$12: 0x00000000	\$16: 0x00000000	\$20: 0x00000000
\$13: 0x00000000	\$17: 0x00000000	\$21: 0x00000000
\$14: 0x00000000	\$18: 0x00000000	\$22: 0x00000000
\$15: 0x00000000	\$19: 0x00000000	\$23: 0x00000000
\$16: 0x00000000	\$20: 0x00000000	\$24: 0x00000000
\$17: 0x00000000	\$21: 0x00000000	\$25: 0x00000000
\$18: 0x00000000	\$22: 0x00000000	\$26: 0x00000000
\$19: 0x00000000	\$23: 0x00000000	\$27: 0x00000000
\$20: 0x00000000	\$24: 0x00000000	\$28: 0x00000000
\$21: 0x00000000	\$25: 0x00000000	\$29: 0x00000400
\$22: 0x00000000	\$26: 0x00000000	\$30: 0x00000000
\$23: 0x00000000	\$27: 0x00000000	\$31: 0x00000000

# **10420 CS410001 – Computer Architecture 2016**

PC: 0x00000020