

CS224
Lab04
Section 5
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Part 1-a

Location	Machine Instruction	Assembly Equivalent
8'h00	0x20020005	addi \$v0 \$zero 0x0005
8'h04	0x2003000c	addi \$v1 \$zero 0x000C
8'h08	0x2067fff7	addi \$a3 \$v1 0xFFFF7
8'h0c	0x00e22025	or \$a0 \$a3 \$v0
8'h10	0x00642824	and \$a1 \$v1 \$a0
8'h14	0x00a42820	add \$a1 \$a1 \$a0
8'h18	0x10a7000a	beq \$a1 \$a3 0x000A
8'h1c	0x0064202a	slt \$a0 \$v1 \$a0
8'h20	0x10800001	beq \$a0 \$zero 0x0001
8'h24	0x20050000	addi \$a1 \$zero 0x0000
8'h28	0x00e2202a	slt \$a0 \$a3 \$v0
8'h2c	0x00853820	add \$a3 \$a0 \$a1
8'h30	0x00e23822	sub \$a3 \$a3 \$v0
8'h34	0xac670044	sw \$a3 0x0044 \$v1
8'h38	0x8c020050	lw \$v0 0x0050 \$zero
8'h3c	0x08000010	j 0x0000010
8'h40	0x001f6020	add \$t4 \$zero \$ra
8'h44	0x0c000012	jal 0x0000012
8'h48	0xac020054	sw \$v0 0x0054 \$zero
8'h4c	0x00039042	srl \$s2 \$v1 0x0undefined
8'h50	0x03E00008	jr \$ra

Part 1-f

- i) Writedata transfers the value that read from RF to Data Memory to write in.
- ii) Because early instructions are I-type instructions and they don't use writedata.
- iii) Loading data from memory is very rare in this instruction set, occurring only once.
- iv) It is resulting memory address of the happened R-type instruction.
- v) Because J-type instruction set it to undefined.