

Relatório -Arquitetura e Organização de Computadores

PUC-Minas -Ciência da Computação

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C:\Users\510348\Desktop\Rel_08AC2.asm - MARS 4.3

File Edit Run Settings Tools Help

Run speed at max (no interaction)

Text Segment

Bkpt	Address	Code	Basic	Source
	0x00400000	0x20111001	addi \$17,\$0,4097	13: addi \$17,\$zero,0x1001 # \$17 = 10001
	0x00400004	0x00118c00	sll \$17,\$17,16	14: sll \$17,\$17,16 # \$17 = 100010000
	0x00400008	0x20120000	addi \$18,\$0,0	15: addi \$18,\$zero,0 # 1 = 0
	0x0040000c	0x20130000	addi \$19,\$0,0	16: addi \$19,\$zero,0 # soma = 0
	0x00400010	0x00124040	sll \$8,\$18,1	19: sll \$8,\$18,1 # 2*1
	0x00400014	0x21080001	addi \$8,\$8,1	20: addi \$8,\$8,1 # 21 + 1
	0x00400018	0xae280000	sw \$8,0(\$17)	21: sw \$8, 0(\$17) # MEM \$17 = 21+1
	0x0040001c	0x22310004	addi \$17,\$17,4	22: addi \$17,\$17,4
	0x00400020	0x22520001	addi \$18,\$18,1	23: addi \$18,\$18,1 # 1++
	0x00400024	0x02689820	add \$19,\$19,\$8	24: add \$19,\$19,\$8 # soma = soma + 21 + 1
	0x00400028	0x28540064	slti \$20,\$18,100	25: slti \$20,\$18,100
	0x0040002c	0x1680ffff	bne \$20,\$0,-8	26: bne \$20,\$zero, do
	0x00400030	0xae330000	sw \$19,0(\$17)	28: sw \$19, 0(\$17) # vetor[101] = soma

Data Segment

Address	Value (+0)	Value (+4)	Value (+8)	Value (+c)	Value (+10)	Value (+14)	Value (+18)	Value (+1c)
0x10010060	49	51	53	55	57	59	61	63
0x10010080	65	67	69	71	73	75	77	79
0x100100a0	81	83	85	87	89	91	93	95
0x100100c0	97	99	101	103	105	107	109	111
0x100100e0	113	115	117	119	121	123	125	127
0x10010100	129	131	133	135	137	139	141	143
0x10010120	145	147	149	151	153	155	157	159
0x10010140	161	163	165	167	169	171	173	175
0x10010160	177	179	181	183	185	187	189	191
0x10010180	193	195	197	199	10000	0	0	0
0x100101a0	0	0	0	0	0	0	0	0

0x10010000 (.data) Hexadecimal Addresses Hexadecimal Values ASCII

Registers

Name	Number	Value
\$zero	0	0
\$at	1	0
\$v0	2	0
\$v1	3	0
\$a0	4	0
\$a1	5	0
\$a2	6	0
\$a3	7	0
\$t0	8	199
\$t1	9	0
\$t2	10	0
\$t3	11	0
\$t4	12	0
\$t5	13	0
\$t6	14	0
\$t7	15	0
\$a0	16	0
\$a1	17	268501392
\$a2	18	100
\$a3	19	10000
\$a4	20	0
\$a5	21	0
\$a6	22	0
\$a7	23	0
\$a8	24	0
\$a9	25	0
\$k0	26	0
\$k1	27	0
\$gp	28	268468224
\$sp	29	2147479548
\$fp	30	0
\$ra	31	0
pc		4194356
hi		0
lo		0

Mars Messages

Reset: reset completed.

Clear

-- program is finished running (dropped off bottom) --

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File Edit Run Settings Tools Help

Run speed at max (no interaction)

Edit Execute

Text Segment

Byte	Address	Code	Basic	Source
0x00400000	0x20111001	addi \$17,\$0,4097	13: addi \$17,\$zero,0x1001	# \$17 = 10001
0x00400004	0x00118c00	sll \$17,\$17,16	14: sll \$17,\$17,16	# \$17 = 100010000
0x00400008	0xae300000	lw \$16,0(\$17)	15: lw \$16,0(\$17)	# \$16 = Mem(\$17)
0x0040000c	0x2a120000	slti \$18,\$16,0	16: slti \$18,\$16,0	# \$18 = (\$16 < 0)
0x00400010	0x16400001	bne \$18,\$0,1	17: bne \$18,\$zero,if	# if (\$18 != 0) go to if
0x00400014	0x08100009	j 0x00400024	18: j fim	
0x00400018	0x02008027	nor \$16,\$16,0	19: if: not \$16,\$16	#complemento de 1 de A
0x0040001c	0x22100001	addi \$16,\$16,1	20: addi \$16,\$16,1	#complemento de 2 de A
0x00400020	0xae300000	sw \$16,0(\$17)	21: sw \$16,0(\$17)	#Mem(\$17) = A (\$16)
0x00400024	0x08100009	j 0x00400024	22: fim: j fim	

Data Segment

Address	Value (+0)	Value (+4)	Value (+8)	Value (+c)	Value (+10)	Value (+14)	Value (+18)	Value (+1c)
0x10010000	16	0	0	0	0	0	0	0
0x10010020	0	0	0	0	0	0	0	0
0x10010040	0	0	0	0	0	0	0	0
0x10010060	0	0	0	0	0	0	0	0
0x10010080	0	0	0	0	0	0	0	0
0x100100a0	0	0	0	0	0	0	0	0
0x100100c0	0	0	0	0	0	0	0	0
0x100100e0	0	0	0	0	0	0	0	0
0x10010100	0	0	0	0	0	0	0	0
0x10010120	0	0	0	0	0	0	0	0
0x10010140	0	0	0	0	0	0	0	0

0x10010000 (.data) ☒ Hexadecimal Addresses ☐ Hexadecimal Values ☐ ASCII

Mars Messages Run IO

-- program is finished running (dropped off bottom) --

Clear

Registers Coproc 1 Coproc 0

Name	Number	Value
\$zero	0	0
\$at	1	0
\$v0	2	0
\$v1	3	0
\$a0	4	0
\$a1	5	0
\$a2	6	0
\$a3	7	0
\$t0	8	0
\$t1	9	0
\$t2	10	0
\$t3	11	0
\$t4	12	0
\$t5	13	0
\$t6	14	0
\$t7	15	0
\$s0	16	16
\$s1	17	268500992
\$s2	18	1
\$s3	19	0
\$s4	20	0
\$s5	21	0
\$s6	22	0
\$s7	23	0
\$s8	24	0
\$s9	25	0
\$k0	26	0
\$k1	27	0
\$gp	28	268468224
\$sp	29	2147479548
\$fp	30	0
\$ra	31	0
pc		4194340
hi		0
lo		0

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File Edit Run Settings Tools Help

Run speed at max (no interaction)

Edit Execute

Text Segment

Byte	Address	Code	Basic	Source
0x00400000	0x20111001	addi \$17,\$0,4097	13: addi \$17,\$zero,0x1001	# \$17 = 10001
0x00400004	0x00118c00	sll \$17,\$17,16	14: sll \$17,\$17,16	# \$17 = 100010000
0x00400008	0xae300000	lw \$16,0(\$17)	15: lw \$16,0(\$17)	# \$16 = Mem(\$17)
0x0040000c	0x2a120032	slti \$18,\$16,50	16: slti \$18,\$16,50	# \$18 = (\$16 < 0)
0x00400010	0x2013001e	addi \$19,\$0,30	17: addi \$19,\$zero,30	
0x00400014	0x0270a02a	slt \$20,\$19,\$16	18: slt \$20,\$19,\$16	# \$18 = (\$16 < 0)
0x00400018	0x12920001	beq \$20,\$18,1	19: beq \$20,\$18,if	# if (\$18 != 0) go to if
0x0040001c	0x08100009	j 0x00400024	20: j fim	
0x00400020	0xae340004	sw \$20,4(\$17)	21: if:sw \$20,4(\$17)	
0x00400024	0x08100009	j 0x00400024	22: fim: j fim	

Data Segment

Address	Value (+0)	Value (+4)	Value (+8)	Value (+c)	Value (+10)	Value (+14)	Value (+18)	Value (+1c)
0x10010000	40	1	0	0	0	0	0	0
0x10010020	0	0	0	0	0	0	0	0
0x10010040	0	0	0	0	0	0	0	0
0x10010060	0	0	0	0	0	0	0	0
0x10010080	0	0	0	0	0	0	0	0
0x100100a0	0	0	0	0	0	0	0	0
0x100100c0	0	0	0	0	0	0	0	0
0x100100e0	0	0	0	0	0	0	0	0
0x10010100	0	0	0	0	0	0	0	0
0x10010120	0	0	0	0	0	0	0	0
0x10010140	0	0	0	0	0	0	0	0

0x10010000 (.data) ☒ Hexadecimal Addresses ☐ Hexadecimal Values ☐ ASCII

Mars Messages Run IO

Reset: reset completed.

Reset: reset completed.

Clear

Registers Coproc 1 Coproc 0

Name	Number	Value
\$zero	0	0
\$at	1	0
\$v0	2	0
\$v1	3	0
\$a0	4	0
\$a1	5	0
\$a2	6	0
\$a3	7	0
\$t0	8	0
\$t1	9	0
\$t2	10	0
\$t3	11	0
\$t4	12	0
\$t5	13	0
\$t6	14	0
\$t7	15	0
\$s0	16	40
\$s1	17	268500992
\$s2	18	1
\$s3	19	30
\$s4	20	1
\$s5	21	0
\$s6	22	0
\$s7	23	0
\$s8	24	0
\$s9	25	0
\$k0	26	0
\$k1	27	0
\$gp	28	268468224
\$sp	29	2147479548
\$fp	30	0
\$ra	31	0
pc		4194340
hi		0
lo		0

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