

*****SRC Assembler***** (SRCTools Version 2.01)

<u>HexLoc</u>	<u>MachWord</u>	<u>Label</u>	<u>Source Code</u>	<u>Comments</u>
00000000	00000000		.org 1000h	
00001000	00000000	array:	.dw 25	
00001064	00000000	sum:	.dw 1	
00001068	00000000			;R0 = sum of elements
00001068	00000000			;R1 = first element
00001068	00000000			;R2 = second element
00001068	00000000			;R3 = new element
00001068	00000000			;R4 = address in memory
00001068	00000000			;R5 = number of current element
00001068	00000000			;R6 = test for completion
00001068	00000000			;R7 = address of end
00001068	00000000			;R8 = address of start of loop
00001068	00000000			;
00001068	00000000			;Initialization
00001068	00000000			;
00001068	00000000		.org 2000h	
00002000	28000002		la r0, 2	;set initial sum = 2
00002004	28400001		la r1, 1	;set first element = 1
00002008	28800001		la r2, 1	;set 2nd element = 1
0000200c	29001000		la r4, array	;load address of start of array
00002010	18480000		st r1, 0(r4)	;store first element
00002014	69080004		addi r4, r4, 4	;point to second element
00002018	18880000		st r2, 0(r4)	;store 2nd element
0000201c	29400002		la r5, 2	;number of elements processed = 2
00002020	29c02050		la r7, end	;address for end
00002024	2a002028		la r8, loop	;address to start

00002028	00000000			;
00002028	00000000			;Body of the calculation
00002028	00000000			;
00002028	698bffe7	loop:	addi r6, r5, -25	;check if finished
0000202c	400e6004		brpl r7, r6	;branch to end
00002030	60c22000		add r3, r1, r2	;form new element
00002034	69080004		addi r4, r4, 4	;where to put it
00002038	18c80000		st r3, (r4)	;store it
0000203c	60003000		add r0, r0, r3	;add it to sum
00002040	68440000		addi r1, r2, 0	;replace first element with 2nd
00002044	68860000		addi r2, r3, 0	;replace 2nd element with new one
00002048	694a0001		addi r5, r5, 1	;increment number of elements stored
0000204c	40100001		br r8	;branch to check if finished
00002050	18001064	end:	st r0, sum	;store sum
00002054	f8000000		stop	

SRC Simulator [SRCTools Version 2.01]

PC = 00002058

r0 = 0002ff41	r1 = 0000b520	r2 = 00012511	r3 = 00012511
r4 = 00001060	r5 = 00000019	r6 = 00000000	r7 = 00002050
r8 = 00002028	r9 = 00000000	r10 = 00000000	r11 = 00000000
r12 = 00000000	r13 = 00000000	r14 = 00000000	r15 = 00000000
r16 = 00000000	r17 = 00000000	r18 = 00000000	r19 = 00000000
r20 = 00000000	r21 = 00000000	r22 = 00000000	r23 = 00000000
r24 = 00000000	r25 = 00000000	r26 = 00000000	r27 = 00000000
r28 = 00000000	r29 = 00000000	r30 = 00000000	r31 = 00000000

Exit

Print

Load

Reload

Edit

Step

Run

Stop

Clear RegFile

Clear BreakPts

Clear Memory

☒ Hex
 ☐ Dec
 ☒ Update Screen
 ☐ Allow Exceptions

Loc	BreakPt	MachWord	Source Code	
[0000203c]	<input type="checkbox"/>	60003000	add r0, r0, r3	Prev. 8
[00002040]	<input type="checkbox"/>	68440000	addi r1, r2, 0	Prev. 4
[00002044]	<input type="checkbox"/>	68860000	addi r2, r3, 0	Prev. 1
[00002048]	<input type="checkbox"/>	694a0001	addi r5, r5, 1	Next 1
[0000204c]	<input type="checkbox"/>	40100001	br r8	Next 4
[00002050]	<input type="checkbox"/>	1800106c	st r0, 4204(r0)	Next 8
[00002054]	<input type="checkbox"/>	f8000000	stop	
[00002058]	<input type="checkbox"/>	00000000	nop	

Loc	Offset 00	Offset 04	Offset 08	Offset 0c	
[00001030]	000000e9	00000179	00000262	000003db	Prev. 16
[00001040]	0000063d	00000a18	00001055	00001a6d	Prev. 8
[00001050]	00002ac2	0000452f	00006ff1	0000b520	Prev. 4
[00001060]	00012511	0002ff41	00000000	00000000	Next 4
					Next 8
					Next 16

(SRCTools Version 2.01)