

FELIPE AUGUSTO MORAIS SILVA

- 1- A
- 2- B
- 3- A
- 4- C
- 5- D
- 6- C
- 7- D
- 8- D
- 9- B
- 10- A
- 11- B
- 12- D
- 13- B
- 14- C
- 15- B
- 16- B
- 17- A
- 18- C

Programa 1 -

mips1.asm

mips2.asm

```

1  # programa 1 (add, addi, sub, lógicas)
2  # a =2; b =3; c =4; d =5;
3  # x = (a+b) - (c+d); = -4
4  # y = a - b + x; -5
5  # b = x - y; 1
6
7  # inicio
8
9  .text
10 .globl main
11 main:
12 addi $s0, $s0, 2 # a = 2
13 addi $s1, $s1, 3 # b = 3
14 addi $s2, $s2, 4 # c = 4
15 addi $s3, $s3, 5 # d = 5
16
17 add $s4, $s0, $s1 # tmp1 = (a+b)
18 add $s5, $s2, $s3 # tmp2 = (c+d)
19
20 sub $s6, $s4, $s5 # x = tmp1 - tmp2
21 sub $s7, $s0, $s1 # y = a- b
22 add $s7, $s7, $s6 # y += x
23
24 sub $s1, $s6, $s7 # b = x - y
25
26 #fim

```

File Edit Run Settings Tools Help

Run speed at max (no interaction)

Text Segment

Byte	Address	Code	Basic	Source
00000000	0x22100002	addi \$s0, \$s0, 2	12: addi \$s0, \$s0, 2 # a = 2	
00000004	0x22100003	addi \$s1, \$s1, 3	13: addi \$s1, \$s1, 3 # b = 3	
00000008	0x22100004	addi \$s2, \$s2, 4	14: addi \$s2, \$s2, 4 # c = 4	
0000000c	0x22100005	addi \$s3, \$s3, 5	15: addi \$s3, \$s3, 5 # d = 5	
00000010	0x02100006	add \$s4, \$s0, \$s1	17: add \$s4, \$s0, \$s1 # tmp1 = (a+b)	
00000014	0x02100007	add \$s5, \$s2, \$s3	18: add \$s5, \$s2, \$s3 # tmp2 = (c+d)	
00000018	0x02100008	sub \$s6, \$s4, \$s5	20: sub \$s6, \$s4, \$s5 # x = tmp1 - tmp2	
0000001c	0x02100009	sub \$s7, \$s0, \$s1	21: sub \$s7, \$s0, \$s1 # y = a - b	
00000020	0x0210000a	add \$s7, \$s7, \$s6	22: add \$s7, \$s7, \$s6 # y += x	
00000024	0x0210000b	sub \$s1, \$s6, \$s7	24: sub \$s1, \$s6, \$s7 # b = x - y	

Data Segment

Address	Value (+0)	Value (+4)	Value (+8)	Value (+C)	Value (+10)	Value (+14)	Value (+18)	Value (+1C)
0x10010000	0	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
0x10010160	0	0	0	0	0	0	0	0
0x10010180	0	0	0	0	0	0	0	0
0x100101A0	0	0	0	0	0	0	0	0

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
\$a4	8	0
\$a5	9	0
\$a6	10	0
\$a7	11	0
\$t0	12	0
\$t1	13	0
\$t2	14	0
\$t3	15	0
\$t4	16	0
\$t5	17	0
\$t6	18	0
\$t7	19	0
\$s0	20	2
\$s1	21	3
\$s2	22	4
\$s3	23	5
\$s4	24	0
\$s5	25	0
\$s6	26	0
\$s7	27	0
\$s8	28	0
\$s9	29	2147479540
\$fp	30	0
\$ra	31	0
\$PC		4194344
\$L0		0

Programa 2 -

[illegible]

Programa 3 -

Eu instanciei as variáveis igual no programa de alto nível, mas não tem necessidade de fazer isso

[illegible]

Programa 4 -

```

1  #programa 3
2
3  # x = 3;
4  # y = 4;
5  # z = (15*x + 67*y)*4
6
7  # inicio
8  .text
9  .globl main
10 main:
11 #initial values
12 addi $s0, $s0, 15 # x = 15
13 addi $s1, $s1, 67 # y = 67
14 # 15 * x
15 sll $s0, $s0, 1
16 addi $s0, $s0, 15
17 #67 * x
18 sll $s1, $s1, 2
19 # (15*x + 67*y)*4
20 add $s2, $s0, $s1
21 sll $s2, $s2, 2
22 #fim

```

Text Segment					n°	
Hex	Address	Code	Basic	Source		
00000000	0x2310000	addi \$s0, \$s0, 15	12: addi \$s0, \$s0, 15 # x = 15			
00000004	0x2310004	addi \$s1, \$s1, 67	13: addi \$s1, \$s1, 67 # y = 67			
00000008	0x0010000	sll \$s0, \$s0, 1	15: sll \$s0, \$s0, 1			
0000000c	0x231000c	addi \$s0, \$s0, 15	16: addi \$s0, \$s0, 15			
00000010	0x0011000	sll \$s1, \$s1, 2	18: sll \$s1, \$s1, 2			
00000014	0x0211000	add \$s2, \$s0, \$s1	20: add \$s2, \$s0, \$s1			
00000018	0x0012000	sll \$s2, \$s2, 2	21: sll \$s2, \$s2, 2			

Data Segment											n°	
Address	Value (+0)	Value (+4)	Value (+8)	Value (+C)	Value (+10)	Value (+14)	Value (+18)	Value (+1C)				
0x10010000	0	0	0	0	0	0	0	0				
0x10010004	0	0	0	0	0	0	0	0				
0x10010008	0	0	0	0	0	0	0	0				
0x1001000c	0	0	0	0	0	0	0	0				
0x10010010	0	0	0	0	0	0	0	0				
0x10010014	0	0	0	0	0	0	0	0				
0x10010018	0	0	0	0	0	0	0	0				
0x1001001c	0	0	0	0	0	0	0	0				
0x10010020	0	0	0	0	0	0	0	0				
0x10010024	0	0	0	0	0	0	0	0				
0x10010028	0	0	0	0	0	0	0	0				
0x1001002c	0	0	0	0	0	0	0	0				
0x10010030	0	0	0	0	0	0	0	0				
0x10010034	0	0	0	0	0	0	0	0				
0x10010038	0	0	0	0	0	0	0	0				
0x1001003c	0	0	0	0	0	0	0	0				
0x10010040	0	0	0	0	0	0	0	0				
0x10010044	0	0	0	0	0	0	0	0				
0x10010048	0	0	0	0	0	0	0	0				
0x1001004c	0	0	0	0	0	0	0	0				
0x10010050	0	0	0	0	0	0	0	0				
0x10010054	0	0	0	0	0	0	0	0				
0x10010058	0	0	0	0	0	0	0	0				
0x1001005c	0	0	0	0	0	0	0	0				

Name	Number	Value
\$2020	0	0
\$at	1	0
\$a0	2	0
\$v1	3	0
\$a0	4	0
\$a1	5	0
\$a2	6	0
\$a3	7	0
\$a4	8	0
\$a5	9	0
\$a6	10	0
\$a7	11	0
\$a8	12	0
\$a9	13	0
\$a10	14	0
\$a11	15	0
\$a12	16	40
\$a13	17	200
\$a14	18	1400
\$a15	19	0
\$a16	20	0
\$a17	21	0
\$a18	22	0
\$a19	23	0
\$a20	24	0
\$a21	25	0
\$a22	26	0
\$a23	27	0
\$a24	28	20440024
\$a25	29	2147479540
\$a26	30	0
\$a27	31	0
\$a28	32	4194032
\$a29	33	0
\$a30	34	0
\$a31	35	0

Programa 5 -

Test Segment					0' 07'		Name	Number	Value
Step	Address	Code	Basic	Source					
1	00000000	00000000	17 000 010 010 0000				0000	0	
2	00000000	00000000	14 010 010 000 0000				0001	0	
3	00000000	00000000	15 000 010 010 0000				0002	0	
4	00000000	00000000	17 000 010 010 0000				0003	0	
5	00000000	00000000	14 010 010 000 0000				0004	0	
6	00000000	00000000	15 000 010 010 0000				0005	0	
7	00000000	00000000	17 000 010 010 0000				0006	0	
8	00000000	00000000	14 010 010 000 0000				0007	0	
9	00000000	00000000	15 000 010 010 0000				0008	0	
10	00000000	00000000	17 000 010 010 0000				0009	0	
11	00000000	00000000	14 010 010 000 0000				0010	0	
12	00000000	00000000	15 000 010 010 0000				0011	0	
13	00000000	00000000	17 000 010 010 0000				0012	0	
14	00000000	00000000	14 010 010 000 0000				0013	0	
15	00000000	00000000	15 000 010 010 0000				0014	0	
16	00000000	00000000	17 000 010 010 0000				0015	0	
17	00000000	00000000	14 010 010 000 0000				0016	0	
18	00000000	00000000	15 000 010 010 0000				0017	0	
19	00000000	00000000	17 000 010 010 0000				0018	0	
20	00000000	00000000	14 010 010 000 0000				0019	0	
21	00000000	00000000	15 000 010 010 0000				0020	0	
22	00000000	00000000	17 000 010 010 0000				0021	0	
23	00000000	00000000	14 010 010 000 0000				0022	0	
24	00000000	00000000	15 000 010 010 0000				0023	0	
25	00000000	00000000	17 000 010 010 0000				0024	0	
26	00000000	00000000	14 010 010 000 0000				0025	0	
27	00000000	00000000	15 000 010 010 0000				0026	0	
28	00000000	00000000	17 000 010 010 0000				0027	0	
29	00000000	00000000	14 010 010 000 0000				0028	0	
30	00000000	00000000	15 000 010 010 0000				0029	0	
31	00000000	00000000	17 000 010 010 0000				0030	0	
32	00000000	00000000	14 010 010 000 0000				0031	0	
33	00000000	00000000	15 000 010 010 0000				0032	0	
34	00000000	00000000	17 000 010 010 0000				0033	0	
35	00000000	00000000	14 010 010 000 0000				0034	0	
36	00000000	00000000	15 000 010 010 0000				0035	0	
37	00000000	00000000	17 000 010 010 0000				0036	0	
38	00000000	00000000	14 010 010 000 0000				0037	0	
39	00000000	00000000	15 000 010 010 0000				0038	0	
40	00000000	00000000	17 000 010 010 0000				0039	0	
41	00000000	00000000	14 010 010 000 0000				0040	0	
42	00000000	00000000	15 000 010 010 0000						

Programa 6

mips1.asm

mips2.asm

mips3.asm

mips4.asm

mips5.asm

mips6.asm

mips7.asm

```

1 # inicio
2 .text
3 .globl main
4 main:
5 ori $8, $0, 0x01
6 sll $8, $8, 16      # t0 = 0x0001 0000;
7 ori $8, $8, 0xFFFF # t0 = 0x0001 FFFF;
8 sll $8, $8, 16      # t0 = 0xFFFF 0000;
9 ori $8, $8, 0xFFFF # t0 = 0xFFFF FFFF;
10 #fim
11

```

Edit

Execute

Text Segment

0x00400000

0x00400001

ori \$8, \$0, 1

5: ori \$8, \$0, 0x01

0x00400004

0x00400005

sll \$8, \$8, 16

6: sll \$8, \$8, 16

0x00400008

0x00400009

ori \$8, \$8, 0xFFFF

7: ori \$8, \$8, 0xFFFF

0x0040000C

0x0040000D

sll \$8, \$8, 16

8: sll \$8, \$8, 16

0x00400010

0x00400011

ori \$8, \$8, 0xFFFF

9: ori \$8, \$8, 0xFFFF

Source

t0 = 0x0001 0000;

t0 = 0x0001 FFFF;

t0 = 0xFFFF 0000;

t0 = 0xFFFF FFFF;

Data Segment

0x10010000

0

Value (+0)

0x10010020

0

Value (+4)

0x10010040

0

Value (+8)

0x10010060

0

Value (+C)

0x10010080

0

Value (+10)

0x100100A0

0

Value (+14)

0x100100C0

0

Value (+18)

0x100100E0

0

Value (+1C)

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

1

\$t1

9

0

\$t2

10

0

\$t3

11

0

\$t4

12

0

\$t5

13

0

\$t6

14

0

\$t7

15

0

\$t8

16

0

\$t9

17

0

\$s0

18

0

\$s1

19

0

\$s2

20

0

\$s3

21

0

\$s4

22

0

\$s5

23

0

\$s6

24

0

\$s7

25

0

\$s8

26

0

\$s9

27

0

\$s10

28

268469264

\$s11

29

2147475548

\$s12

30

0

\$s13

31

0

\$PC

4194324

\$t1

0

\$t2

0

Programa 8

mips1.asm

mips2.asm

mips3.asm

mips4.asm

mips5.asm

mips6.asm

mips7.asm

mips8.asm*

```

1 # inicio
2 .text
3 .globl main
4 main:
5 ori $8, $zero, 0x1234 #8 = 0000 1234
6 sll $8, $8, 16      #8 = 1234 0000
7 ori $8, $8, 0x5678 #8 = 1234 5678
8 srl $9, $8, 24      #9 = 0000 0034
9 sll $10, $8, 8      #10 = 3456 7800
10 srl $10, $10, 24    #10 = 0000 0034
11 sll $11, $8, 16     #11 = 5678 0000
12 srl $11, $11, 24    #11 = 0000 0078
13 sll $12, $8, 24     #12 = 7800 0000
14 srl $12, $12, 24    #12 = 0000 0078
15
16 #fim
17

```


Text Segment							
Bkpt	Address	Code	Basic	Source	Name	Number	Value
	0x00000000	0x4001234	ori \$0, \$0, 0x0001234	5: ori \$0, \$zero, #0x1234 #0 = 0000 1234	\$0x10	0	0x00000000
	0x00000004	0x0000440	lil \$0, \$0, 0x0000010	6: lil \$0, \$0, 16 #0 = 1234 0000	\$0x11	1	0x00000000
	0x00000008	0x00005678	ori \$0, \$0, 0x00005678	7: ori \$0, \$0, #0x5678 #0 = 1234 5678	\$0x12	2	0x00000000
	0x0000000c	0x00004a02	lil \$0, \$0, 0x0000010	8: lil \$0, \$0, 24 #0 = 0000 0034	\$0x13	3	0x00000000
	0x00000010	0x00005200	lil \$0, \$0, 0x00000000	9: lil \$0, \$0, 8 #0 = 0456 7890	\$0x14	4	0x00000000
	0x00000014	0x00005c02	lil \$0, \$0, 0x00000010	10: lil \$0, \$0, 24 #0 = 0000 0034	\$0x15	5	0x00000000
	0x00000018	0x00005c00	lil \$0, \$0, 0x00000010	11: lil \$0, \$0, 16 #0 = 5678 0000	\$0x16	6	0x00000000
	0x0000001c	0x00005c02	lil \$0, \$0, 0x00000010	12: lil \$0, \$0, 24 #0 = 0000 0078	\$0x17	7	0x00000000
	0x00000020	0x00005c00	lil \$0, \$0, 0x00000010	13: lil \$0, \$0, 24 #0 = 7890 0000	\$0x18	8	0x00000000
	0x00000024	0x00005c02	lil \$0, \$0, 0x00000010	14: lil \$0, \$0, 24 #0 = 0000 0078	\$0x19	9	0x00000000
					\$0x1a	10	0x00000000
					\$0x1b	11	0x00000000
					\$0x1c	12	0x00000000
					\$0x1d	13	0x00000000
					\$0x1e	14	0x00000000
					\$0x1f	15	0x00000000
					\$0x20	16	0x00000000
					\$0x21	17	0x00000000
					\$0x22	18	0x00000000
					\$0x23	19	0x00000000
					\$0x24	20	0x00000000
					\$0x25	21	0x00000000
					\$0x26	22	0x00000000
					\$0x27	23	0x00000000
					\$0x28	24	0x00000000
					\$0x29	25	0x00000000
					\$0x2a	26	0x00000000
					\$0x2b	27	0x00000000
					\$0x2c	28	0x00000000
					\$0x2d	29	0x00000000
					\$0x2e	30	0x00000000
					\$0x2f	31	0x00000000
					\$0x30		0x00000000
					\$0x31		0x00000000
					\$0x32		0x00000000
					\$0x33		0x00000000
					\$0x34		0x00000000
					\$0x35		0x00000000
					\$0x36		0x00000000
					\$0x37		0x00000000
					\$0x38		0x00000000
					\$0x39		0x00000000
					\$0x3a		0x00000000
					\$0x3b		0x00000000
					\$0x3c		0x00000000
					\$0x3d		0x00000000
					\$0x3e		0x00000000
					\$0x3f		0x00000000
					\$0x40		0x00000000
					\$0x41		0x00000000
					\$0x42		0x00000000
					\$0x43		0x00000000
					\$0x44		0x00000000
					\$0x45		0x00000000
					\$0x46		0x00000000
					\$0x47		0x00000000
					\$0x48		0x00000000
					\$0x49		0x00000000
					\$0x4a		0x00000000
					\$0x4b		0x00000000
					\$0x4c		0x00000000
					\$0x4d		0x00000000
					\$0x4e		0x00000000
					\$0x4f		0x00000000
					\$0x50		0x00000000
					\$0x51		0x00000000
					\$0x52		0x00000000
					\$0x53		0x00000000
					\$0x54		0x00000000
					\$0x55		0x00000000
					\$0x56		0x00000000
					\$0x57		0x00000000
					\$0x58		0x00000000
					\$0x59		0x00000000
					\$0x5a		0x00000000
					\$0x5b		0x00000000
					\$0x5c		0x00000000
					\$0x5d		0x00000000
					\$0x5e		0x00000000
					\$0x5f		0x00000000
					\$0x60		0x00000000
					\$0x61		0x00000000
					\$0x62		0x00000000
					\$0x63		0x00000000
					\$0x64		0x00000000
					\$0x65		0x00000000
					\$0x66		0x00000000
					\$0x67		0x00000000
					\$0x68		0x00000000
					\$0x69		0x00000000
					\$0x6a		0x00000000
					\$0x6b		0x00000000
					\$0x6c		0x00000000
					\$0x6d		0x00000000
					\$0x6e		0x00000000
					\$0x6f		0x00000000
					\$0x70		0x00000000
					\$0x71		0x00000000
					\$0x72		0x00000000
					\$0x73		0x00000000
					\$0x74		0x00000000
					\$0x75		0x00000000
					\$0x76		0x00000000
					\$0x77		0x00000000
					\$0x78		0x00000000
					\$0x79		0x00000000
					\$0x7a		0x00000000
					\$0x7b		0x00000000
					\$0x7c		0x00000000
					\$0x7d		0x00000000
					\$0x7e		0x00000000
					\$0x7f		0x00000000
					\$0x80		0x00000000
					\$0x81		0x00000000
					\$0x82		0x00000000
					\$0x83		0x00000000
					\$0x84		0x00000000
					\$0x85		0x00000000
					\$0x86		0x00000000
					\$0x87		0x00000000
					\$0x88		0x00000000
					\$0x89		0x00000000
					\$0x8a		0x00000000
					\$0x8b		0x00000000
					\$0x8c		0x00000000
					\$0x8d		0x00000000
					\$0x8e		0x00000000
					\$0x8f		0x00000000
					\$0x90		0x00000000
					\$0x91		0x00000000
					\$0x92		0x00000000
					\$0x93		0x00000000
					\$0x94		0x00000000
					\$0x95		0x00000000
					\$0x96		0x00000000
					\$0x97		0x00000000
					\$0x98		0x00000000
					\$0x99		0x00000000
					\$0x9a		0x00000000
					\$0x9b		0x00000000
					\$0x9c		0x00000000
					\$0x9d		0x00000000
					\$0x9e		0x00000000
					\$0x9f		0x00000000
					\$0xa0		0x00000000
					\$0xa1		0x00000000
					\$0xa2		0x00000000
					\$0xa3		0x00000000
					\$0xa4		0x00000000
					\$0xa5		0x00000000
					\$0xa6		0x00000000
					\$0xa7		0x00000000
					\$0xa8		0x00000000
					\$0xa9		0x00000000
					\$0xaa		0x00000000
					\$0xab		0x00000000
					\$0xac		0x00000000
					\$0xad		0x00000000
					\$0xae		0x00000000
					\$0xaf		0x00000000
					\$0xb0		0x00000000
					\$0xb1		0x00000000
					\$0xb2		0x00000000
					\$0xb3		0x00000000
					\$0xb4		0x00000000
					\$0xb5		0x00000000
					\$0xb6		0x00000000
					\$0xb7		0x00000000
					\$0xb8		0x00000000
					\$0xb9		0x00000000
					\$0xba		0x00000000
					\$0xbb		0x00000000
					\$0xbc		0x00000000
					\$0xbd		0x00000000
					\$0xbe		0x00000000
					\$0xbf		0x00000000
					\$0xc0		0x00000000
					\$0xc1		0x00000000
					\$0xc2		0x00000000
					\$0xc3		0x00000000
					\$0xc4		0x00000000
					\$0xc5		0x00000000
					\$0xc6		0x00000000
					\$0xc7		0x00000000
					\$0xc8		0x00000000
					\$0xc9		0x00000000
					\$0xca		0x00000000
					\$0xcb		0x00000000
					\$0xcc		0x00000000
					\$0xcd		0x00000000
					\$0xce		0x00000000
					\$0xcf		0x00000000
					\$0xd0		0x00000000
					\$0xd1		0x00000000
					\$0xd2		0x00000000
					\$0xd3		0x00000000
					\$0xd4		0x00000000
					\$0xd5		0x00000000
					\$0xd6		0x00000000
					\$0xd7		0x00000000
					\$0xd8		0x00000000
					\$0xd9		0x00000000
					\$0xda		0x00000000
					\$0xdb		0x00000000
					\$0xdc		0x00000000
					\$0xdd		0x00000000
					\$0xde		0x00000000
					\$0xdf		0x00000000
					\$0xe0		0x00000000
					\$0xe1		0x00000000
					\$0xe2		0x00000000
					\$0xe3		0x00000000
					\$0xe4		0x00000000
					\$0xe5		