

lui \$s1, 0x1001 #direccion base del vector

Tipo i

0011 11	00 000	1 0001	0000 0000 0000 0000
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op

RS

RT

6 bits

5 bits

5 bits

16 bits

0x3C110000

Instruccion hexadecimal

jal longitud\_array #CalcularLongitudArray()

Tipo j

0000 11	00 000	1 1111	0000 0000 0000 1000
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op

RS

RT

Constant

6 bits

26 bits

0x0C1F0008

Instruccion hexadecimal

lui \$a0, 0x1001 #direccion base del vector en a0

Tipo i

0011 11	00 000	0 0100	0000 0000 0000 0000
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op

RS

RT

Constant

6 bits

5 bits

5 bits

16 bits

0x3C040000

Instruccion hexadecimal

addi \$a1, \$s0, 0 #a1=longitud

Tipo i

0010 00	10 000	0 0101	0000 0000 0000 0000
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op

RS

RT

Constant

6 bits

5 bits

5 bits

16 bits

0x22050000

Instruccion hexadecimal

jal penultimo #Obtener penultimo elemento

Tipo j

0000 11	00 000	1 1111	0000 0000 0000 1110
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op	Constant
6 bits	26 bits

0x0C1F000E      Instruccion hexadecimal

addi \$a1, \$v0, 0 #arg1 = valor penult y=x

Tipo i

0010 00	00 010	0 0101	0000 0000 0000 0000
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op	RS	RT	Constant
6 bits	5 bits	5 bits	16 bits

0x20450000      Instruccion hexadecimal

jal mult\_function # function\_multiplicacion()

Tipo j

0000 11	00 000	1 1111	0000 0000 0001 0011
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op	RS	RT	Constant
6 bits			26 bits

0x0C1F0013      Instruccion hexadecimal

j exitfinal

Tipo j

0000 10	00 000	0 0000	0000 0000 0001 0111
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op	RS	RT	Constant
6 bits			26 bits

0x08000017      Instruccion hexadecimal

```
lw $a0, 0($s1) #a0=s1[i]
```

Tipo i

1000 11	10 001	0 0100	0000 0000 0000 0000
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op RS RT Constant

6 bits 5 bits 5 bits 16 bits

0x8E240000 Instruccion hexadecimal

```
beq $a0, 0, exit #if(i=0)exit
```

Tipo i

0001 00	00 100	0 0000	0000 0000 0000 0011
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op RS RT Constant

6 bits 5 bits 5 bits 16 bits

0x10800003 Instruccion hexadecimal

```
addi $s0, $s0, 1 # longitud=longitud + 1
```

Tipo i

0010 00	10 000	1 0000	0000 0000 0000 0001
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op RS RT Constant

6 bits 5 bits 5 bits 16 bits

0x22100001 Instruccion hexadecimal

```
addi $s1, $s1, 1 #direccion = direccion + 1
```

Tipo i

0010 00	10 001	1 0001	0000 0000 0000 0001
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op RS RT Constant

6 bits 5 bits 5 bits 16 bits

0x22310001 Instruccion hexadecimal

## j longitud\_array

Tipo j

0000 10	00 000	0 0000	0000 0000 0000 1000
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op RS RT Constant

6 bits 26 bits

0x08000008 Instruccion hexadecimal

## jr \$ra

Tipo r

0000 01	11 111	0 0000	0000 0	000 00	00 1000
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op RS RT RD SHAMT FUNCTION

6 bits 5 bits 5 bits 5 bits 5 bits 6 bits

0x07E00008 Instruccion hexadecimal

## addi \$t2, \$t2, 2

Tipo i

0010 00	01 010	0 1010	0000 0000 0000 0010
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op RS RT Constant

6 bits 5 bits 5 bits 16 bits

0x214A0002 Instruccion hexadecimal

## sub \$t1, \$a1, \$t2 #Resta del registro traído

Tipo r

0000 00	00 101	0 1010	0100 1	000 00	10 0010
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op RS RT RD SHAMT FUNCTION

6 bits 5 bits 5 bits 5 bits 5 bits 6 bits

0x00AA4822 Instruccion hexadecimal

add \$s2, \$s2, \$t1 ## direccion del penultimo

Tipo r

0000 00	10 010	0 1001	1001 0	000 00	10 000
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op RS RT RD SHAMT FUNCTION

6 bits 5 bits 5 bits 5 bits 5 bits 6 bits

0x02499020 Instruccion hexadecimal

lw \$v0,0(\$s2) #cargamos en v0 el penultimo.value

Tipo i

1000 11	10 010	0 0010	0000 0000 0000 0000
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op RS RT Constant

6 bits 5 bits 5 bits 16 bits

0x8E420000 Instruccion hexadecimal

jr \$ra

Tipo r

0000 01	11 111	0 0000	0000 0	000 00	00 1000
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op RS RT RD SHAMT FUNCTION

6 bits 5 bits 5 bits 5 bits 5 bits 6 bits

0x07E00008 Instruccion hexadecimal

sll \$t3, \$a1, 6 #x \* 64

Tipo r

0000 00	00 000	0 0101	0101 1	001 10	00 0000
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op RS RT RD SHAMT FUNCTION

6 bits 5 bits 5 bits 5 bits 5 bits 6 bits

0x00055980 Instruccion hexadecimal

sll \$t4, \$a1, 4 #x \* 16

Tipo r

0000 00	00 000	0 0101	0110 0	001 00	00 0000
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op                      RS                      RT                      RD                      SHAMT                      FUNCTION

6 bits                      5 bits                      5 bits                      5 bits                      5 bits                      6 bits

0x00056100                      Instruccion hexadecimal

add \$v1, \$t3, \$t4 #(x\*64) + (x\*16) = x\*80

Tipo r

0000 00	01 011	0 1100	0001 1	000 00	10 000
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op                      RS                      RT                      RD                      SHAMT                      FUNCTION

6 bits                      5 bits                      5 bits                      5 bits                      5 bits                      6 bits

0x016C1820                      Instruccion hexadecimal

jr \$ra

Tipo r

0000 01	11 111	0 0000	0000 0	000 00	00 1000
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op                      RS                      RT                      RD                      SHAMT                      FUNCTION

6 bits                      5 bits                      5 bits                      5 bits                      5 bits                      6 bits

0x07E00008                      Instruccion hexadecimal

addi \$s5, \$s5, 20 #Puntero de la dirección base del resultado

Tipo i

0010 00	10 101	1 0101	0000 0000 0001 0100
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op                      RS                      RT                      Constant

6 bits                      5 bits                      5 bits                      16 bits

0x22B50014                      Instruccion hexadecimal

sw \$v1 , 0(\$s5) #Guardar el valor del resultado

Tipo i

1010 11	10 101	0 0011	0000 0000 0000 0000
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opRSRTConstant

6 bits5 bits5 bits16 bits

0xAEA30000Instruccion hexadecimal