

## PROBLEMA 2.18

SumaElemento:

pushl %ebp

movl %esp, %ebp

movl 8(%ebp), %eax #eax = i

movl 12(%ebp), %ecx #ecx = j

sall \$2, %ecx #ecx = 4j

leal (, %eax, 8), %edx #edx = 8i

subl %eax, %edx #edx = 7i

leal (%eax, %eax, 4), %eax #eax = 5i

movl mat2(%ecx, %eax, 4), %eax #@mat2 + (j + 5i) 4

addl mat1(%ecx, %edx, 4), %eax #@mat1 + (j + 7i) 4

...

$$a) @mat2 + (j + 5i) \cdot 4 \rightarrow \underline{M=5} \text{ (columnas de mat2)}$$

$$@mat1 + (j + 7i) \cdot 4 \rightarrow \underline{N=7} \text{ (columnas de mat1)}$$

$$b) \underline{13}$$

$$c) \underline{13}$$

$$d) \underline{6}$$

$$e) 1/0'8 = 1'25 \text{ CPS} \quad 1/0'5 = 2 \text{ CPS}$$

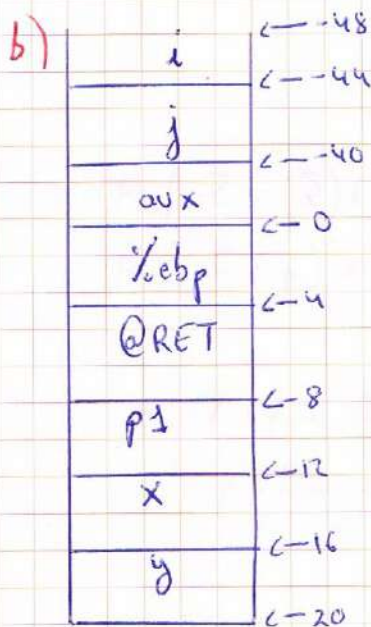
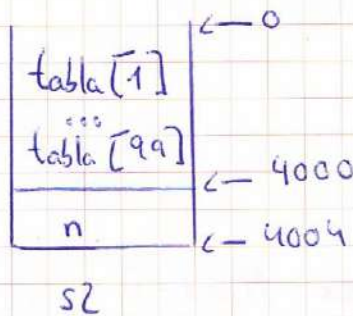
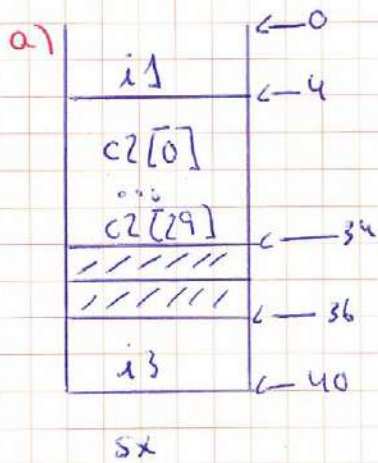
$$6 \cdot 2 + 7 \cdot 1'25 = \underline{20'75 \text{ ciclos}}$$

$$f) 1/0'9 = 1'1 \text{ CPS} \quad 1/0'6 = 1'67 \text{ CPS}$$

$$6 \cdot 1'67 + 7 \cdot 1'1 = 17'7 \text{ ciclos}$$

$$\frac{20'75}{17'7} = \underline{1'17}$$

# PROBLEMA 2.19



c) `movl -4(%ebp), %eax`  
`mul add 12(%ebp), %ebx`  
`movl (%ebx), %ebx`  
`addl %ebx, %eax`

d)

e) `movl -44(%ebp), %ecx`  
`imul 16(%ebp), %ecx`  
`movl %ecx, -48(%ebp)`

f) `pushl 16(%ebp)`  
~~`imul $40, %ecx`~~  
`movl -44(%ebp), %ecx`  
`imul $40, %ecx`  
`addl 8(%ebp), %ecx`  
`pushl %ecx`  
`call F`  
`addl $8, %esp`  
`movl %eax, -40(%ebp)`

g) `movb -13(%ebp), %ecx`  
~~`mov`~~ `leal -40(%ebp), %edx`  
`addl $4, %edx`  
`addl -48(%ebp), %edx`  
`movb %cl, (%edx)`



```

8)      pushl %ebp
        movl $0, %eax
        movl 8(%ebp), %ecx
for:    cmpl %ecx, 16(%ebp)
        cmpl 16(%ebp), %eax
        jge return
        cmpl 4000 4000(%ecx), %eax
        jge return
        imul $40, %eax, %edx
        addl %ecx, %edx # @ps.tabla[i]
        addl %eax, movl 36(%edx), %ebx
        addl %eax, %ebx
        movl %ebx, (%edx)
        addl $5, %eax
        jmp for
return: popl %ebp

```

```

h) if:  movl -40(%ebp), %ecx
        cmpl 16(%ebp), %ecx
        je else
        movl -48(%ebp), %ecx
        movl %ecx, -4(%ebp) ← jmp fi-if
else:   movl -44(%ebp), %ecx
        movl 2%ecx, -4(%ebp)

```

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fi-if:

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```
i)    movl $0, %eax  
      leal -36(%ebp), %ecx  
while: cmpb $'.', (%ecx, %eax)  
      je je return  
      movb $'#', (%ecx, %eax)  
      incl %eax  
      jmp while  
return:
```