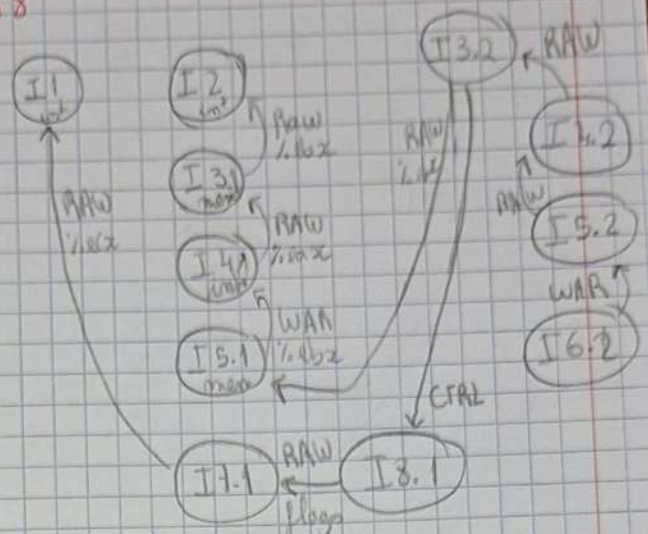
→ Arquitetura de Computadores - Ficha 8

1-

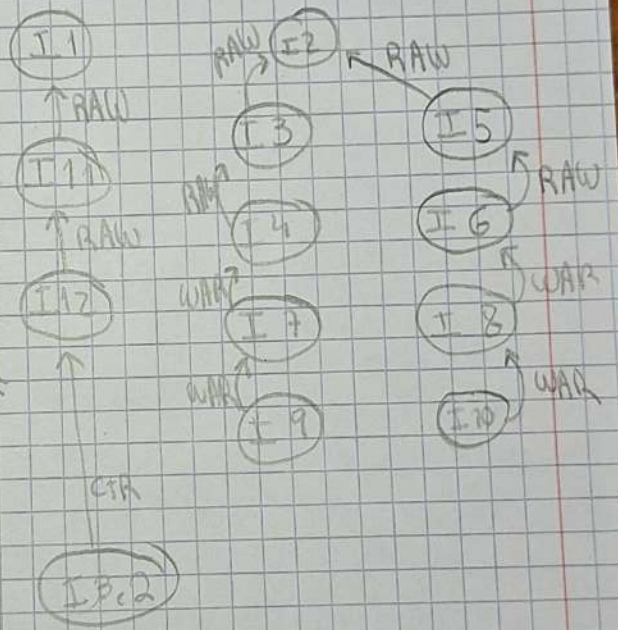
I1: mov $10, %ecx
I2: mov $20, %ebx
I3: mov 0(%ebx), %eax
I4: add $100, %eax
I5: mov %eax, 0(%ebx)
I6: add $4, %ebx
I7: dec %ecx
I8: jmp I3



a)

b)

I1: mov $10, %ecx
I2: mov $20, %ebx
I3: mov 0(%ebx), %eax
I4: add $100 %eax
I5: mov 4(%ebx) %esi
I6: add $100 %esi
I7: mov %eax, 0(%ebx)
I8: mov %esi, 4(%ebx)
I9: add $4, %ebx
I10: add $8, %esi
I11: dec $2 %ecx
I12: jmp I3



c)

	Sem Umbrellino			Umbrellino = 2		
	UF0(int+B)	UF1(int+B	UF2(mun)	UF0(int	UF1(int	UF2(mun)
1	I1	I2		I1	I2	
2			I3			I3
3	I4			I4		I5
4	I6	I7	I5	I6		I7
5	I8			I9	I10	I8
6			I3.2	I11	I12	
7	I4.2					I3.2
8	I6.2	I7.2	I5.2	I4.2		I6.2
9	I8.2			I6.2		I7.2
10				I9.2	I10.2	I8.2
11				I11	I12	
12						
13						
14						
CPI		9/14=0,64			11/14=0,79	

d)

	Sem unrolling			unrolling = 2		
	UF0 (int)	UF1 (int)	UF2 (mem)	UF0	UF1	UF2
1	I1	I2		I1	I2	
2			I3			I3
3	I4			I4		-
4	I6	I7	I5	I6		I5
5	I8		I3.2			I7
6	I4.2			I9	I10	I8
7	I6.2	I7.2	I5.2	I11	I12	I3.2
8	I8.2					
9						
10						
11						
12						
13						
14						
CPI	8/14 = 0.57					

a)

	UF0	UF1	UF2
1	I1	I2	
2			I3
3	I4	I7	
4	I6	I8	I5
5			I3.2
6	I4.2	I7.2	
7	I6.2	I8.2	
8			
9			
10			
11			
12			
13			
14			
		7/14=0,5	

2-

1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

a)

I1: pop %eax
I2: cmp $0 %eax
I3: je I9
I4: mov 0(%ebx), %ecx
I5: add %eax, %ecx
I6: mov %ecx, 0(%ebx)
I7: add $4, %ebx
I8: jmp I1