

Esercizio

$sum = 0$

for ($i = 0, i < n, i++$)

{ $ind = (a[i] + b[i]) \% n$

$c[ind] = c[ind] + ind$ //

$sum = sum + ind$

}

$a, b \equiv$ localita, no rinvio

$c \equiv$ no bc, no rinvio

$c[]$ c'è indico a i

$c[]$ c'è indico a $i+1$

code freeze

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SUB R0, R0, R0 ← φ
SUB R5, R5, R5 ← i sum
SUB Ri, Ri, Ri ← i
LD Rcost, R0, Rcost ← m = 2^k
LD RN, R0, RN ← ind. d. m
    
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RA = ind. d. m di A
 B " " " " B

$$\frac{1000011111}{k} = 2^{k-1}$$

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LOOP : IF = Ri, RN, FINE
LD RA, Ri, Ra ← A[i,j]
LD RB, Ri, Rb ← B[i,j]
ADD RA, Rb, Rind ← modulo
AND Rcost, Rind, Rind
LD RC, Rind, Rc
ADD Rc, Rind, Rc
ST RC, Rind, Rc
INC Ri
GOTO LOOP
FINE : ST Rsum, R0, R5
    
```

← A[i,j]
 ← B[i,j]
 ← modulo

N° instr. Es. = 3 RR + 3 LD/ST + RR
 $M * (7 RR + 4 LD/ST)$

$$T = T_c + \frac{N_{fault}}{N_{instr}} * T_{trasf.}$$

$N_{instr} * T_{tempo\ medio} (T_c = T_{med})$
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$$N_{fault} = N_{fault}(cod) + N_{fault}(dati)$$

$$\sigma = 16 - 12p \text{ cash}$$

$$N_{\text{fault}}(\text{instr}) = \lceil 17/\sigma \rceil \leq 2$$

$$N_{\text{fault}}(\text{debt}) = \begin{cases} \rightarrow A \rightarrow \lceil N/\sigma \rceil \\ \rightarrow B \rightarrow \lceil N/\sigma \rceil \\ \rightarrow C \rightarrow N \\ \rightarrow \text{var} \rightarrow 1 \\ \rightarrow \text{cost} \rightarrow 1 \end{cases}$$

$$N_{\text{fault}} = \lceil 17/\sigma \rceil + 2 + 2 \lceil N/\sigma \rceil + N$$

$$m_a > 1$$

$$m_b > 1$$

$$m_c > 1$$

Prob. fault in C
 $\frac{m_c}{(N/\sigma)}$

$$\left. \begin{array}{l} 1 p_{=j} p_{\leq} A \\ 1 p_{=j} p_{\leq} B \\ 1 p_{=j} p_{\leq} C \end{array} \right\} \begin{array}{l} \text{allocation} \\ \text{and} \\ \text{cash} \\ \text{collected} \end{array}$$

Prob. di fault su C

$$1 - n_c \cdot \left[\frac{N}{\sigma} \right]$$