

$$\begin{bmatrix} 1 & 1 & 1 \\ 1 & 1 & 1 \end{bmatrix} \begin{bmatrix} 1 \\ 1 \\ 1 \end{bmatrix} = \begin{bmatrix} 1 \\ 1 \end{bmatrix}$$

$2 \times 3 \cdot 3 \times 1 = 2 \times 1$   
 $x \times y \quad y \times z \quad x \times z$

```
void mat_mul(float* A, float* B, float* C, int x, int y, int z) {
    for (int i = 0; i < x; i++) {
        for (int j = 0; j < z; j++) {
            float sum = 0;
            for (int k = 0; k < y; k++) {
                sum += A[i * y + k] * B[k * z + j];
            }
            C[i * z + j] = sum;
        }
    }
}
```

Cache: 32B      Inyja: 8B      potpuno asocijativna

A(2x2), B(2x2), C(2x2) u jednu liniju stane točno red matrice!  
 izbacivati po algoritmu LRU (least recently used)

red pa stupac  $i < x \leq$   
 $j < z \leq$

rA0	0	1	2	3	M
rB0					M
rA0					H
rB1					M
wC0					M
rA0					H
rB0					H
rA0					H
rB1					H
wC0					H
rA1					M
rB0					H
rA1					H
rB1					H
wC1					H
rA1					H
rB0					H
rA1					H
rB1					H
wC1					H

13H  
 7M  
 u  
 bolji  
 algoritam!  
 ☺

stupac pa red  $j < z \leq$   
 $i < x \leq$

rA0	0	1	2	3	M
rB0					M
rA0					H
rB1					M
wC0					M
rA1					M
rB0					M
rA1					H
rB1					H
wC1					M
rA0					M
rB0					M
rA0					H
rB1					H
wC0					M
rA1					M
rB0					M
rA1					H
rB1					H
wC1					M

7H  
 13M

☹