Exercise: Big matrix-vector multiplication

How to multiply a large matrix A of size $(n \times n)$ by a vector v of size n. The goal is to calculate:

with

 $x = (x_1, ..., x_n)$

 $x_i = \sum a_{ij} v_i$

Av=x

and

MAP:



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 $x = (x_1, ..., x_n)$ $x_i = \sum a_{ij} v_i$ $\begin{bmatrix}
3 & 2 & 0 \\
0 & 4 & 1 \\
2 & 0 & 1
\end{bmatrix}
\begin{bmatrix}
4 \\
3 \\
,
\end{bmatrix}$ Shuffling : MAP (0, 12)(0,[12,6]) MAP (0,6)MAP 0 (1, 12)2 0 (1,[12,1]) $\begin{bmatrix} 2 & 0 \\ 4 & 1 \end{bmatrix} \begin{bmatrix} 4 \\ 3 \end{bmatrix}$ MAP 0 (1,1)

Av=x

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