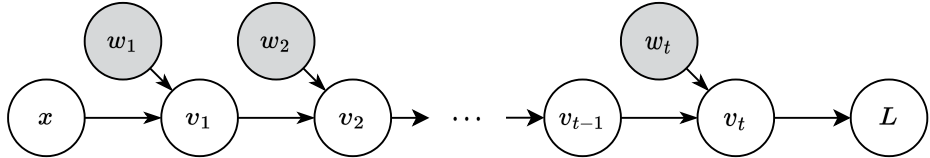


Weights

Input



A diagram illustrating the matrix multiplication operation for the hidden state transition. It shows a vertical stack of three rows representing the hidden state v_k at time step k . This is equal to the product of a vertical stack of three rows representing the hidden state v_{k-1} at time step $k-1$ and a vertical stack of three rows representing the weight matrix w_k . The dimensions of the matrices are indicated below them.

$$\begin{matrix} \begin{matrix} \text{ } \\ v_k \\ \text{ } \end{matrix} \\ b \times n_k \end{matrix} = \begin{matrix} \begin{matrix} \text{ } \\ v_{k-1} \\ \text{ } \end{matrix} \\ b \times n_{k-1} \end{matrix} \cdot \begin{matrix} \begin{matrix} \text{ } \\ w_k \\ \text{ } \end{matrix} \\ n_{k-1} \times n_k \end{matrix}$$