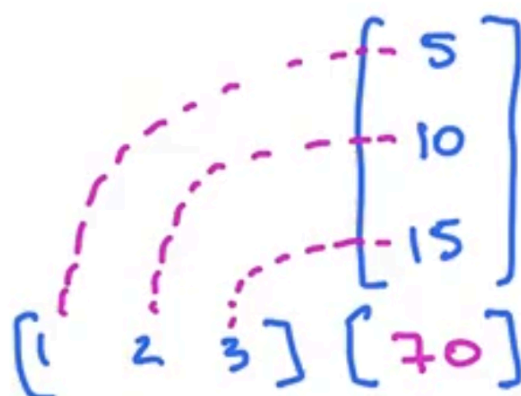
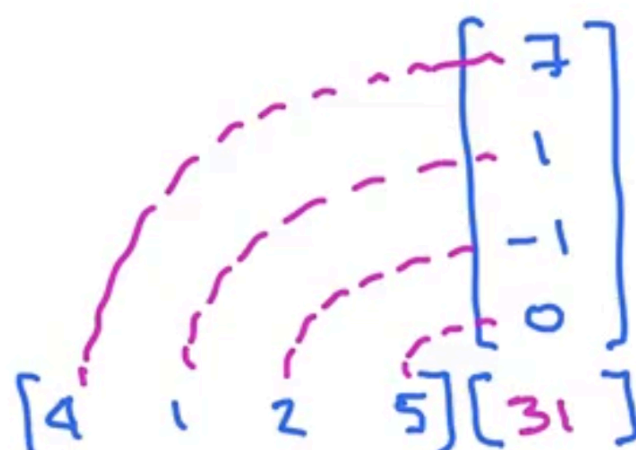


To multiply vectors find the sum of the pairwise products of their entries.

$$\begin{bmatrix} 1 & 2 \end{bmatrix} \times \begin{bmatrix} 5 \\ 10 \end{bmatrix} = (1 \times 5) + (2 \times 10) = 5 + 20 = 25$$


$$\begin{bmatrix} 1 & 2 & 3 \end{bmatrix} \times \begin{bmatrix} 5 \\ 10 \\ 15 \end{bmatrix} = (1 \times 5) + (2 \times 10) + (3 \times 15)$$
$$5 + 20 + 45$$
$$70$$


$$\begin{bmatrix} 4 & 1 & 2 & 5 \end{bmatrix} \times \begin{bmatrix} 7 \\ 1 \\ -1 \\ 0 \end{bmatrix} = (4 \times 7) + (1 \times 1) + (2 \times -1) + (5 \times 0)$$
$$28 + 1 + -2 + 0$$
$$31$$