

$$\text{proj}_{\underline{b}} \underline{a} = \frac{\underline{a} \cdot \underline{b}}{|\underline{b}|^2} \underline{b}$$

$$\{a, b\}$$

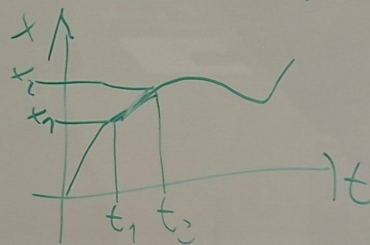
$$\{a, \{b\}\}$$

$$(a, b)$$

$$R = \{(a, 1), (b, 2), (c, 3)\}$$

$$\underline{A} = \begin{pmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{pmatrix}$$

$$\underline{A}^T = \begin{pmatrix} 1 & 4 \\ 2 & 5 \\ 3 & 6 \end{pmatrix}$$

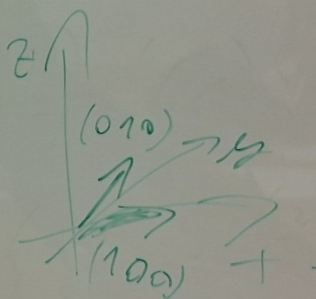


$$v = \frac{x_2 - x_1}{t_2 - t_1} = \frac{\Delta x}{\Delta t}$$



$$R_{\alpha=90^\circ} = \begin{pmatrix} \cos 90^\circ & -\sin 90^\circ \\ \sin 90^\circ & \cos 90^\circ \end{pmatrix} = \begin{pmatrix} 0 & -1 \\ 1 & 0 \end{pmatrix} \quad \left| \quad \begin{pmatrix} 0 & -1 & 0 \\ 1 & 0 & 0 \\ 0 & 0 & 1 \end{pmatrix} \begin{pmatrix} 1 \\ 0 \\ 0 \end{pmatrix} = \right.$$

$$\begin{pmatrix} 0 & -1 \\ 1 & 0 \end{pmatrix} \begin{pmatrix} 1 \\ 0 \end{pmatrix} = \begin{pmatrix} 0 \\ 1 \end{pmatrix} \quad \left| \quad \begin{pmatrix} 0 \\ 1 \\ 0 \end{pmatrix} \right.$$





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