1 | upper triangular matrix def

A matrix in which all entries below the diagonal are zero

$$\begin{pmatrix} \lambda_1 & & * \\ & \ddots & \\ 0 & & \lambda_n \end{pmatrix}$$

1.1 | results

1.1.1 | Axler5.26 Conditions for upper-triangular matrix

Suppose $T; i\mathcal{L}(V)$ and $v_1, \ldots, v_n$ is a basis of V. The following are equivalent:

- the matrix of T with respect to $v_1, \ldots, v_n$ is upper triangular
- $Tv_j \in \text{span}(v_1, \ldots, v_j)$ for each $j = 1, \ldots, n$