> *restart* : *with*(*LinearAlgebra*) :
> $A := Matrix([[2, 3], [1, 0]])$

$$A := \begin{bmatrix} 2 & 3 \\ 1 & 0 \end{bmatrix} \tag{1}$$

> $J, Q := JordanForm(A, output = ['J', 'Q'])$

$$J, Q := \begin{bmatrix} -1 & 0 \\ 0 & 3 \end{bmatrix}, \begin{bmatrix} \dfrac{1}{4} & \dfrac{3}{4} \\ -\dfrac{1}{4} & \dfrac{1}{4} \end{bmatrix} \tag{2}$$

> # *Dit is i) lambda_ 1 = -1, lambda_2 = 3*
> # *ii)*
> $v\_1 := Q[.., 1]$

$$v\_1 := \begin{bmatrix} \dfrac{1}{4} \\ -\dfrac{1}{4} \end{bmatrix} \tag{3}$$

> $v\_2 := Q[.., 2]$

$$v\_2 := \begin{bmatrix} \dfrac{3}{4} \\ \dfrac{1}{4} \end{bmatrix} \tag{4}$$

> $v\_3 := Vector([1, 2])$

$$v\_3 := \begin{bmatrix} 1 \\ 2 \end{bmatrix} \tag{5}$$

> $eq := \langle 1, 2 \rangle = c1 * v\_1 + c2 * v\_2;$

$$eq := \begin{bmatrix} 1 \\ 2 \end{bmatrix} = \begin{bmatrix} \dfrac{c1}{4} + \dfrac{3\,c2}{4} \\ -\dfrac{c1}{4} + \dfrac{c2}{4} \end{bmatrix} \tag{6}$$

> $solve(eq, \{c1, c2\})$

$$\{c1 = -5, c2 = 3\} \tag{7}$$

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