```
> restart : with(LinearAlgebra) : with(plots) : with(plottools) :
> A := Matrix([[1, 1], [1, 1]]) :
> J, Q := JordanForm(A, output = ['J', 'Q'])
```

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

```
> # Jordaan is diagonalised, check!
> sin_j := Matrix([[0, 0], [0, sin(2)]]) :
> A_sin := Q . sin_j . MatrixInverse(Q)
```

$$A\_sin := \begin{bmatrix} \frac{\sin(2)}{2} & \frac{\sin(2)}{2} \\ \frac{\sin(2)}{2} & \frac{\sin(2)}{2} \end{bmatrix} \tag{2}$$

```
>
> A := Matrix([[0, 1], [0, 0]]) :
> J, Q := JordanForm(A, output = ['J', 'Q'])
```

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

```
>
```