```
> with(linalg):
```
Warning, the protected names norm and trace have been redefined and unprotected
```
> A:=matrix([[3,-1,4],[-1,2,-2]]):b:=vector([5,-5]):G:=concat(A,b);
```

$$G := \begin{bmatrix} 3 & -1 & 4 & 5 \\ -1 & 2 & -2 & -5 \end{bmatrix}$$

```
> gaussjord(G);
```

$$\begin{bmatrix} 1 & 0 & \dfrac{6}{5} & 1 \\ 0 & 1 & \dfrac{-2}{5} & -2 \end{bmatrix}$$

```
> A:=matrix([[3,2],[-1,1]]);inverse(A);
```

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

$$\begin{bmatrix} \dfrac{1}{5} & \dfrac{-2}{5} \\ \dfrac{1}{5} & \dfrac{3}{5} \end{bmatrix}$$

```
> C:=matrix([[3,4],[-1,2],[1,0]]);evalm(C&*A);
```

$$C := \begin{bmatrix} 3 & 4 \\ -1 & 2 \\ 1 & 0 \end{bmatrix}$$

$$\begin{bmatrix} 5 & 10 \\ -5 & 0 \\ 3 & 2 \end{bmatrix}$$

```
> matrix([[5, 10], [-5, 0], [3, 2]]);
```

$$\begin{bmatrix} 5 & 10 \\ -5 & 0 \\ 3 & 2 \end{bmatrix}$$

```
> A:=matrix([[5,2],[4,-2]]);eigenvects(A);
```

$$A := \begin{bmatrix} 5 & 2 \\ 4 & -2 \end{bmatrix}$$

$$[-3, 1, \{[1, -4]\}], [6, 1, \{[2, 1]\}]$$

```
> A:=matrix([[2,-3],[-4,-9]]);eigenvects(A);
```

$$A := \begin{bmatrix} 2 & -3 \\ -4 & -9 \end{bmatrix}$$

[-10, 1, {[1, 4]}], [3, 1, {[-3, 1]}]

>