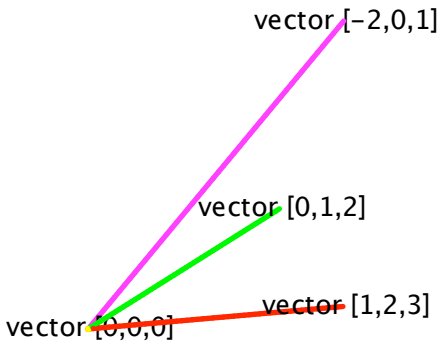
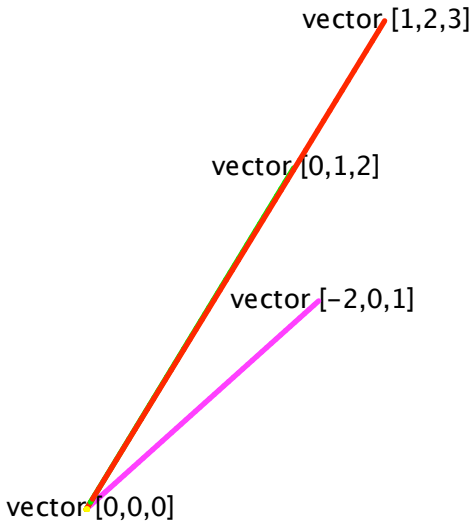
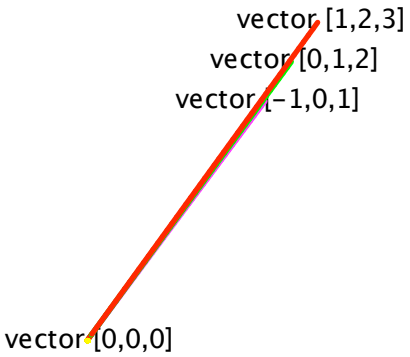
```
with(LinearAlgebra) : with(plots) :
a1 := spacecurve({[1*t, 2*t, 3*t, t=0..1]}, color=red, thickness=2) :
a2 := textplot3d([1, 2, 3, `vector [1,2,3]`], color=black) :
b1 := spacecurve({[0*t, 1*t, 2*t, t=0..1]}, color=green, thickness=2) :

b2 := textplot3d([0, 1, 2, `vector [0,1,2]`], color=black) :
c1 := spacecurve({[-2*t, 0*t, 1*t, t=0..1]}, color=magenta, thickness
    =2) :
c2 := textplot3d([-2, 0, 1, `vector [-2,0,1]`], color=black) :
d1 := spacecurve({[0*t, 0*t, 0*t, t=0..1]}, color=yellow, thickness
    =2) :
d2 := textplot3d([0, 0, 0, `vector [0,0,0]`], color=black) :
display(a1, a2, b1, b2, c1, c2, d1, d2);
```

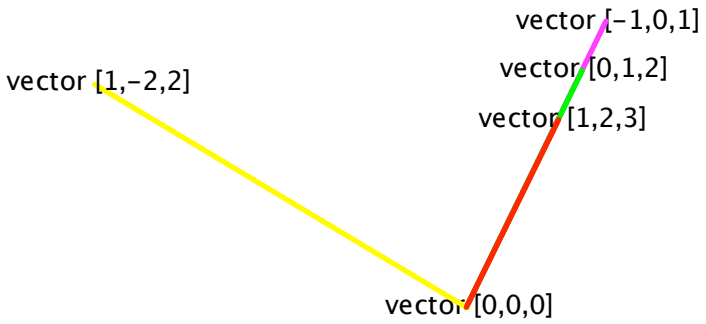





```
a1 := spacecurve({[1*t, 2*t, 3*t, t=0..1]}, color=red, thickness=2):
a2 := textplot3d([1, 2, 3, `vector [1,2,3]`], color=black):
b1 := spacecurve({[0*t, 1*t, 2*t, t=0..1]}, color=green, thickness=2):

b2 := textplot3d([0, 1, 2, `vector [0,1,2]`], color=black):
c1 := spacecurve({[-1*t, 0*t, 1*t, t=0..1]}, color=magenta, thickness
    =2):
c2 := textplot3d([-1, 0, 1, `vector [-1,0,1]`], color=black):
d1 := spacecurve({[0*t, 0*t, 0*t, t=0..1]}, color=yellow, thickness
    =2):
d2 := textplot3d([0, 0, 0, `vector [0,0,0]`], color=black):
display(a1, a2, b1, b2, c1, c2, d1, d2);
```




```
e1 := spacecurve({[1*t,-2*t, 2*t, t=0..1]}, color=yellow, thickness
    =2):
 e2 := textplot3d([1,-2, 2, `vector [1,-2,2]`], color=black):
display(a1, a2, b1, b2, c1, c2, d1, d2, e1, e2);
```



$M := Matrix([[1, 0, -1, 0], [2, 1, 0, 0], [3, 2, 1, 0]]);$

$$\begin{bmatrix} 1 & 0 & -1 & 0 \\ 2 & 1 & 0 & 0 \\ 3 & 2 & 1 & 0 \end{bmatrix} \quad (1)$$

$ReducedRowEchelonForm(M);$

$$\begin{bmatrix} 1 & 0 & -1 & 0 \\ 0 & 1 & 2 & 0 \\ 0 & 0 & 0 & 0 \end{bmatrix} \quad (2)$$

$M := Matrix([[1, 0, -1, u1], [2, 1, 0, u2], [3, 2, 1, u3]]);$

$$\begin{bmatrix} 1 & 0 & -1 & u1 \\ 2 & 1 & 0 & u2 \\ 3 & 2 & 1 & u3 \end{bmatrix} \tag{3}$$

$GaussianElimination(M);$

$$\begin{bmatrix} 1 & 0 & -1 & u1 \\ 0 & 1 & 2 & u2 - 2\,u1 \\ 0 & 0 & 0 & u3 + u1 - 2\,u2 \end{bmatrix} \tag{4}$$