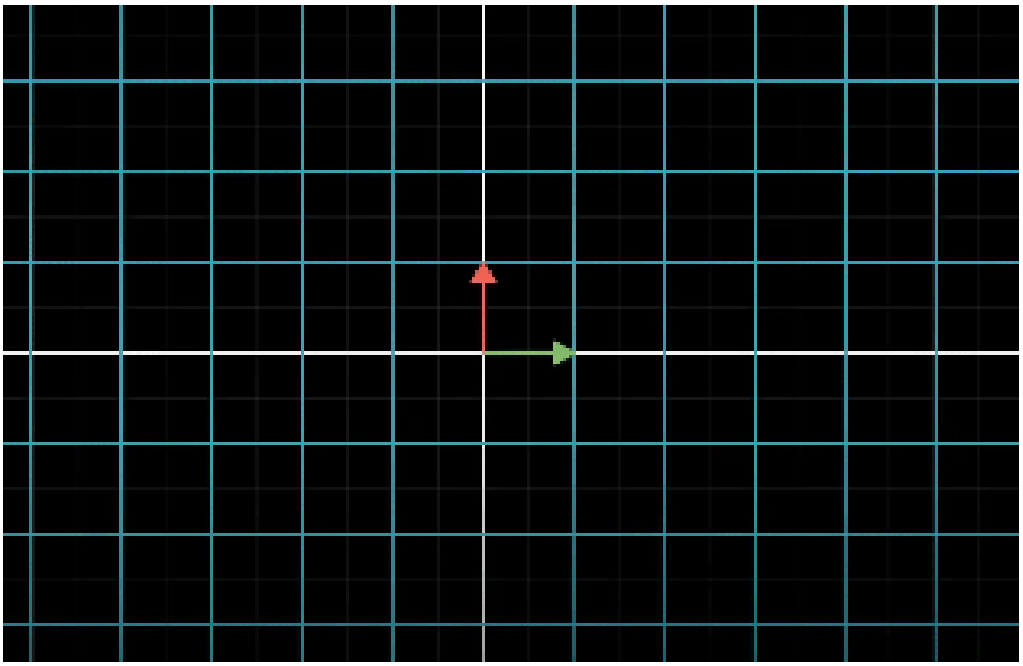
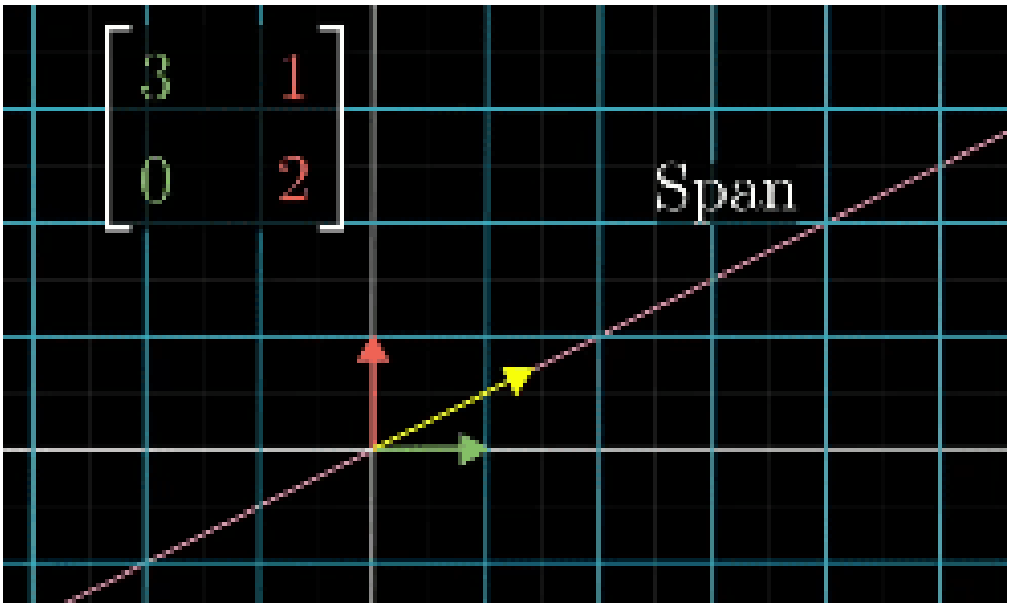
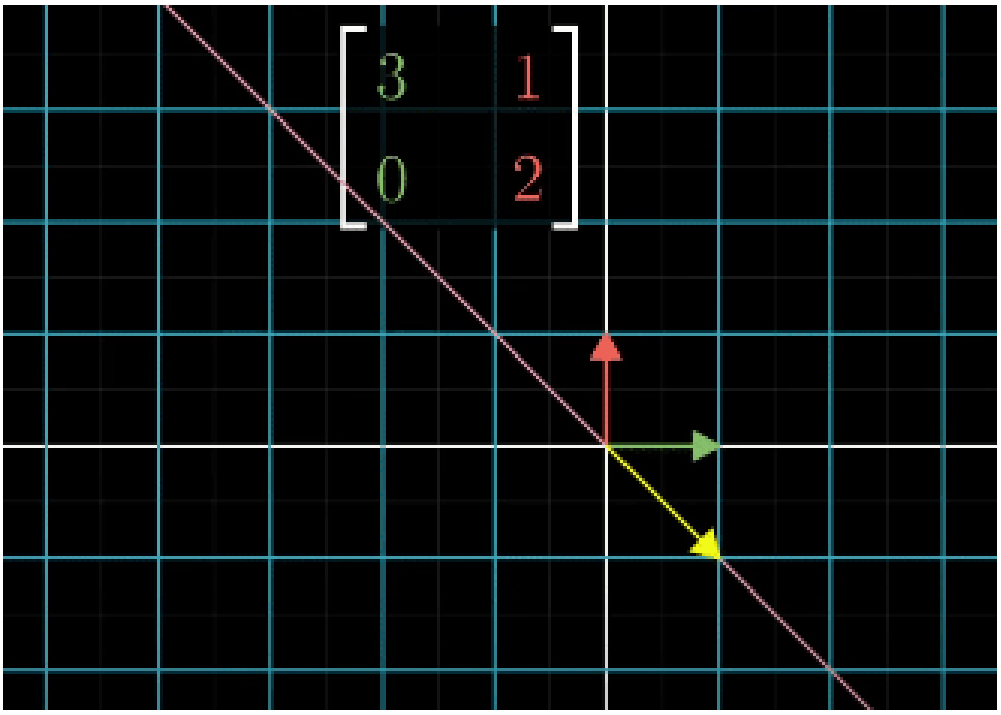
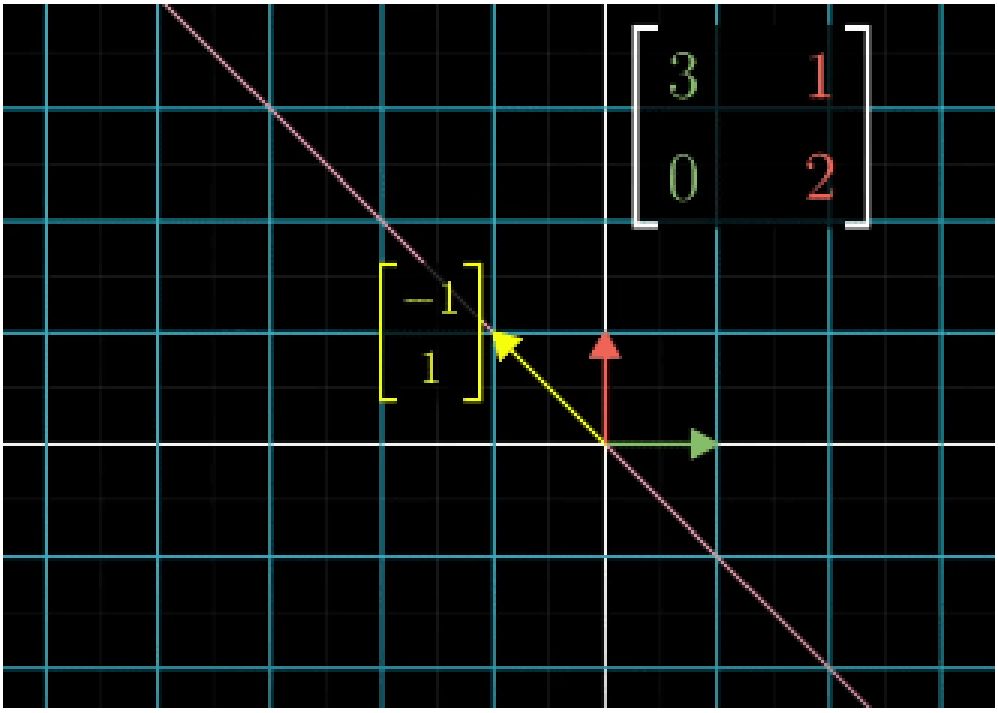
Eigenvectors and Eigenvalues

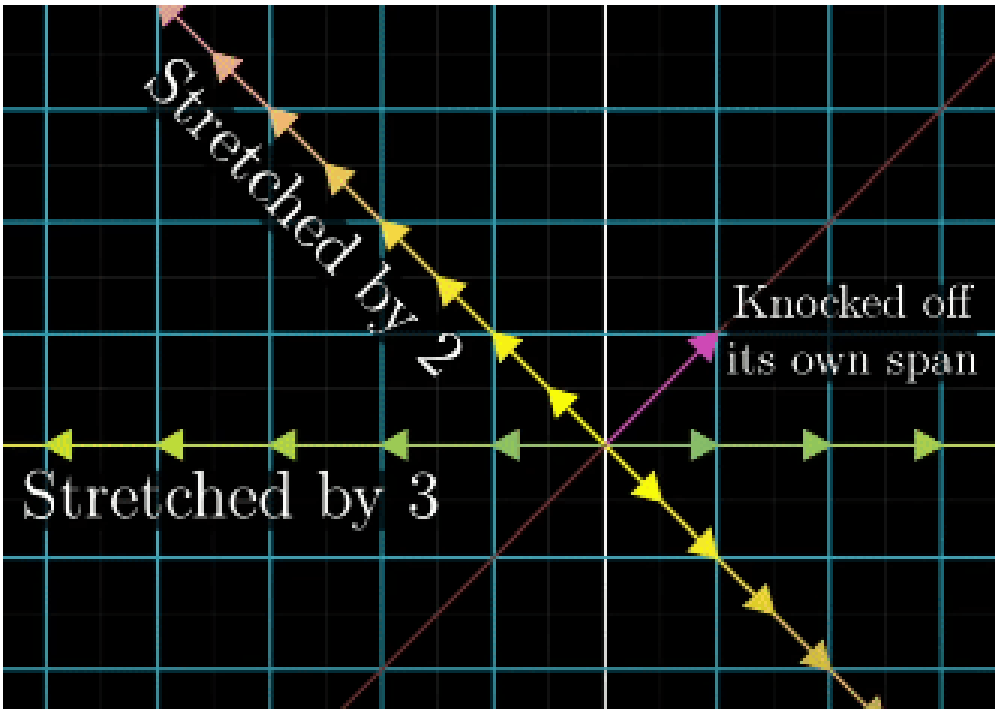
> Prereq: Change of Basis, Determinants, Linear Transformation, Linear Systems of Equations, span

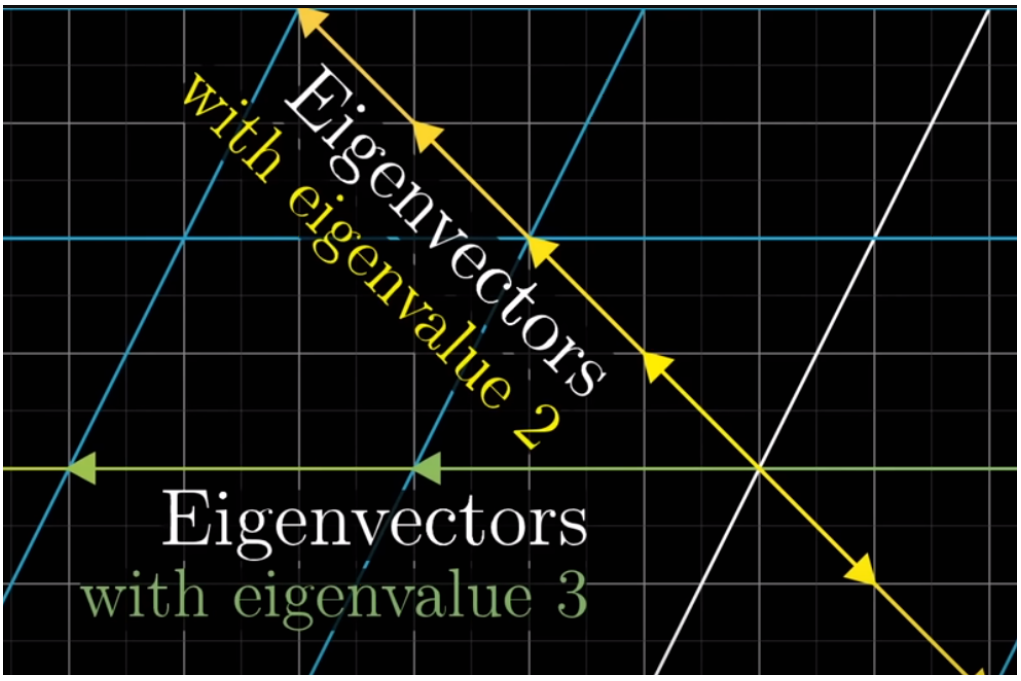


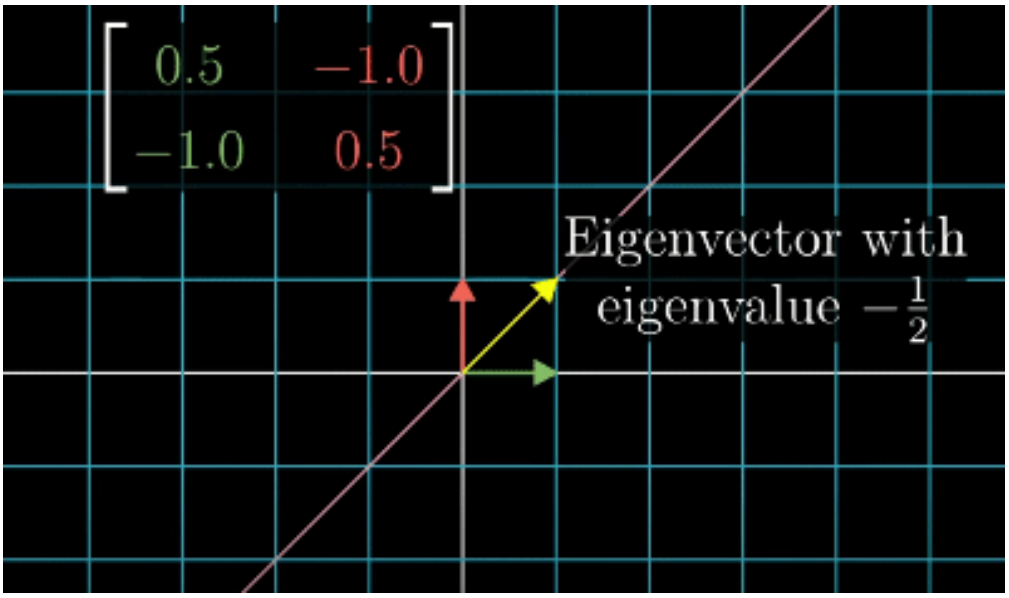


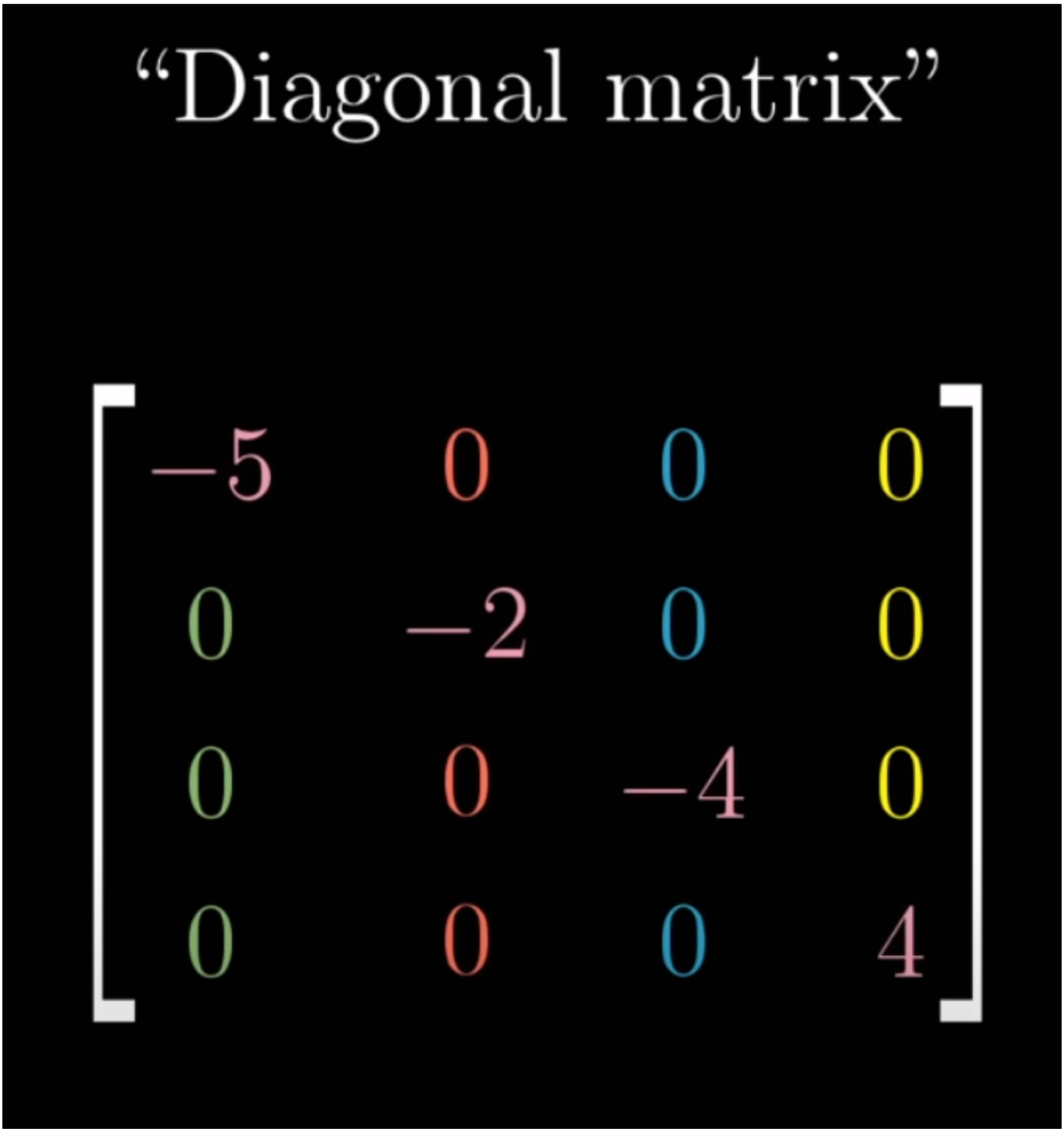

$\begin{bmatrix} 3 & 1 \\ 0 & 2 \end{bmatrix}$


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


Stretched by 2
Knocked off
its own span
Stretched by 3


Eigenvectors
with eigenvalue 2
Eigenvectors
with eigenvalue 3


$\begin{bmatrix} 0.5 & -1.0 \\ -1.0 & 0.5 \end{bmatrix}$
Eigenvector with eigenvalue $-\frac{1}{2}$



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