<https://www.youtube.com/watch?v=Qz58vTa8-SY>

<https://towardsdatascience.com/mathematics-for-data-science-e53939ee8306>

<https://seeing-theory.brown.edu/>

<https://www.coursera.org/specializations/mathematics-machine-learning>

eigen vectors and values

Eigen means characteristic : **for a linear transformation, an eigenvector is a vector which, after applying the transformation, stays in the same span.** and its new value is called eigen value. So rotate has 0 eigenvector(except 180 degree it has 1). Sheer has 1 horizontal eigen vector with value 1. Find below.

<https://www.coursera.org/learn/linear-algebra-machine-learning/lecture/oPBNY/what-are-eigenvalues-and-eigenvectors>