

2017/04/20 Quiz (not for grading)

Let

$$A = \begin{bmatrix} \frac{1}{2} & 0 & 0 \\ -5 & 3 & -5 \\ 0 & 0 & -2 \end{bmatrix}$$

Diagonalize A by finding nonsingular V such that $V^{-1}AV$ is a diagonal matrix. In particular, find V 's that do the following:

- Find a V that arranges the eigenvalues in ascending order of their absolute value.
- Find a V that arranges them in descending order.

How can you use the above results to compute the general terms for the components of A^n , $n = 1, 2, \dots$?