The power method and inverse power method are used to find the largest and smallest eigenvalues (and their corresponding eigenvectors) for a given matrix. These eigenvalues are useful because they can be used to approximate the condition number for a matrix. The inverse power method is extra useful because it can be shifted to converge to any eigenvalue, which makes it possible to find all the eigenvalues for a matrix. This method is especially useful for sparse matrices.

<http://math.ntnu.edu.tw/~min/matrix_computation/power_method.pdf>

<http://www.netlib.org/utk/people/JackDongarra/etemplates/node96.html>

<https://www.sciencedirect.com/topics/mathematics/inverse-power-method>