

1 Inverse Power Iteration

Implement a function `inv_power_iteration()` which takes a matrix A , an initial guess $\hat{\lambda} \in \mathbb{C}$ and maximum iteration number $n \in \mathbb{N}$ as arguments and returns the n -th iterate x_n of the inverse power iteration (??).

Make your algorithm more efficient with the considerations of Exercise ?? (iii). Test your function on

$$A = \begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}, \hat{\lambda} = 1.9 \text{ and } n = 10.$$

Solution: