

Tutorial Exercise 9

MA2.101: Linear Algebra (Spring 2022)

June 30, 2022

1 Diagonalization

Verify if the matrix $\begin{bmatrix} 4 & -3 & -3 \\ 3 & -2 & -3 \\ -1 & 1 & 2 \end{bmatrix}$ is diagonalizable. If yes, then diagonalize it.

2 QR factorization

Do QR factorization for $\begin{bmatrix} 1 & 1 & 0 \\ 1 & 0 & 1 \\ 0 & 1 & 1 \end{bmatrix}$.

3 SVD decomposition

Do SVD for $\begin{bmatrix} 5 & 5 \\ -1 & 7 \end{bmatrix}$.