Q1. Find the eigenvalues and the corresponding eigenvectors of the matrix \( A = \begin{pmatrix} 1 & 1 \\ 0 & 2 \end{pmatrix} \). (4 points)
Q2. Consider the matrix \( A = \begin{pmatrix} -1 & 1 & -1 \\ 0 & 1 & -4 \\ 0 & 1 & -3 \end{pmatrix} \).

i) Find all eigenvalues of \( A \). Indicate their multiplicities.

ii) Find one eigenvector using the Gauss reduction method. Use four row-operations to obtain an augmented matrix of the form \((A_R \mid 0)\) where \( A_R \) is an upper-triangular matrix. (6 points).